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# PROCESSOR

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## The Best Of Both Worlds

Rack-Level PDU Hardware & Power Management Software Unite In Server Technology's Sentry Power System

**SOMETIMES**, all it takes to determine where a company should concentrate its efforts is listening to its customers. That's exactly what Server Technology did in developing its new Sentry Power System<sup>SM</sup>, an innovative, bar-raising solution that brings customer-requested simplicity to the management of rack-based PDUs. Featuring exclusive SNAP technology, Sentry Power System forms a tight marriage between Server Tech's family of CDUs (cabinet power distribution units) and Sentry Power Manager software to enable true plug-and-play ability and easy management of all PDUs from one management console.

"We listen to our customers very carefully. What they are asking for is an easier way to manage large populations of PDU devices," says Mark Harris, vice president of marketing at Server Tech. Thus was born SNAP, an enterprise-class technology that brings a tighter integration of the company's PDU hardware devices to its software management platform, SPM. "There's nothing else like it in the industry," Harris says. "Until now, customers have been left without the means to proactively manage large populations of PDUs. Sentry Power System and its amazing SNAP technology delivers this today."

### Simplicity In A SNAP

That Server Tech is bringing simplicity to PDU management isn't surprising. The company has 25-plus years of experience creating rack-based hardware and software power solutions, authoring three dozen patents and delivering millions of ports of power during that time. Although competitors have popped up along the way offering similar functionality, Server Tech is the industry's only company with "this scale,

this size, this level of success made possible by focusing only on PDUs," Harris says. "We've proven to the industry that we know how to make the world's best PDUs. As the (data center) industry has become more demanding for intelligence and capacity, we continue to be the leader in the space."

across customers have been very dispersed and very demanding.

"Power itself has become a mission-critical resource," he says. "It's no longer a generic category within the data center. People actually care greatly about the quality and reliability and intelligence of the PDUs they're installing." Harris explains that five years ago, the PDU was treated as a generic device. Today, RFPs are being written solely for PDU selection. Accompanying this rethinking toward PDUs, Harris says, is customers' desire for a solution that addresses the challenge of managing increasingly intelligent and growing populations of PDUs. That solution, Harris says, is Sentry Power System featuring SNAP technology.

### Easily Managed Power

SNAP is embedded in running across SSL-encrypted tunnels, and is embedded in Server Tech CDUs and Sentry Power Manager software to enable true plug-and-play functionality. Thus, says Harris, "when you take Server Tech's PDUs with SNAP technology out of the box, they auto-configure, they auto-discover, they auto-everything. You can go back and modify if you like, but they essentially come out of the box running. We're the only vendor that does that kind of thing."

From the user's perspective, Sentry Power System provides a single system for power management across the enterprise. "If you want to turn every outlet of power on across your entire company, it's one key click," Harris says.


Further, Sentry Power System allows IT to organize an enterprise's PDUs in a

hierarchical fashion in any way it chooses. Thus, IT can set thresholds, turn on reporting, change timeframes, and turn outlets on and off across the entire enterprise "without worrying about 'Which PDU is that on? Which country is it installed in? How do I get there?' And that's really what customers have been pushing us for," Harris says.

"It allows you basically to separate what are otherwise physical deployment boundaries, and now you can approach them logically," Harris says. So, IT can create a hierarchy that places, say, the enterprise's finance organization in one branch and engineering group in another, or in a data center, place the video streaming and chat groups within the Internet structure in separate branches. "The idea is you can create a hierarchical tree that essentially groups and manages all PDUs and power under that tree as granular or macro as you like," Harris says.

Beyond simplifying PDU discovery, configuration, and upgrades, Sentry Power System also supports measuring and monitoring of power data per outlet, device, application, or rack; managing alerts and alarms; and enabling the trending and reporting of power data. Sentry Power System can operate as a stand-alone system or integrate with existing DCIM or BMS installations.

### Simplified Availability

Server Tech is including Sentry Power System in all shipping versions of Sentry PDUs and Sentry Power Manager. For current customers, SNAP can be enabled in their PDUs with a free firmware upgrade change to version 6.1e or higher combined with SPM software version 5.1 or higher. 

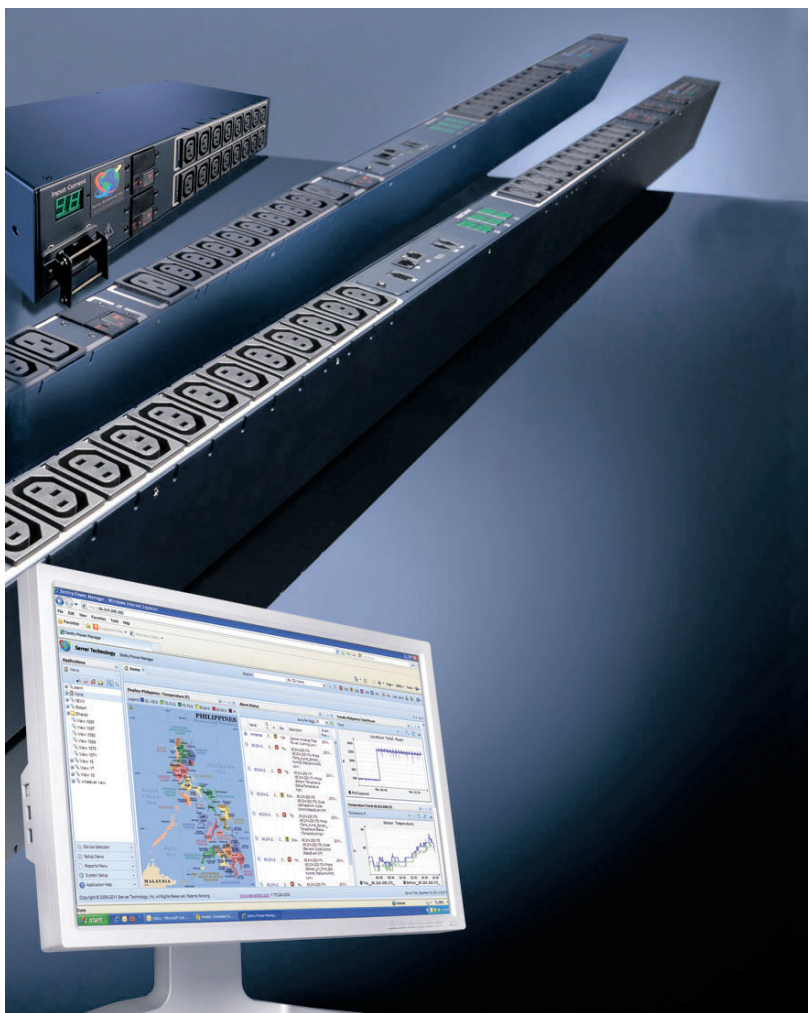
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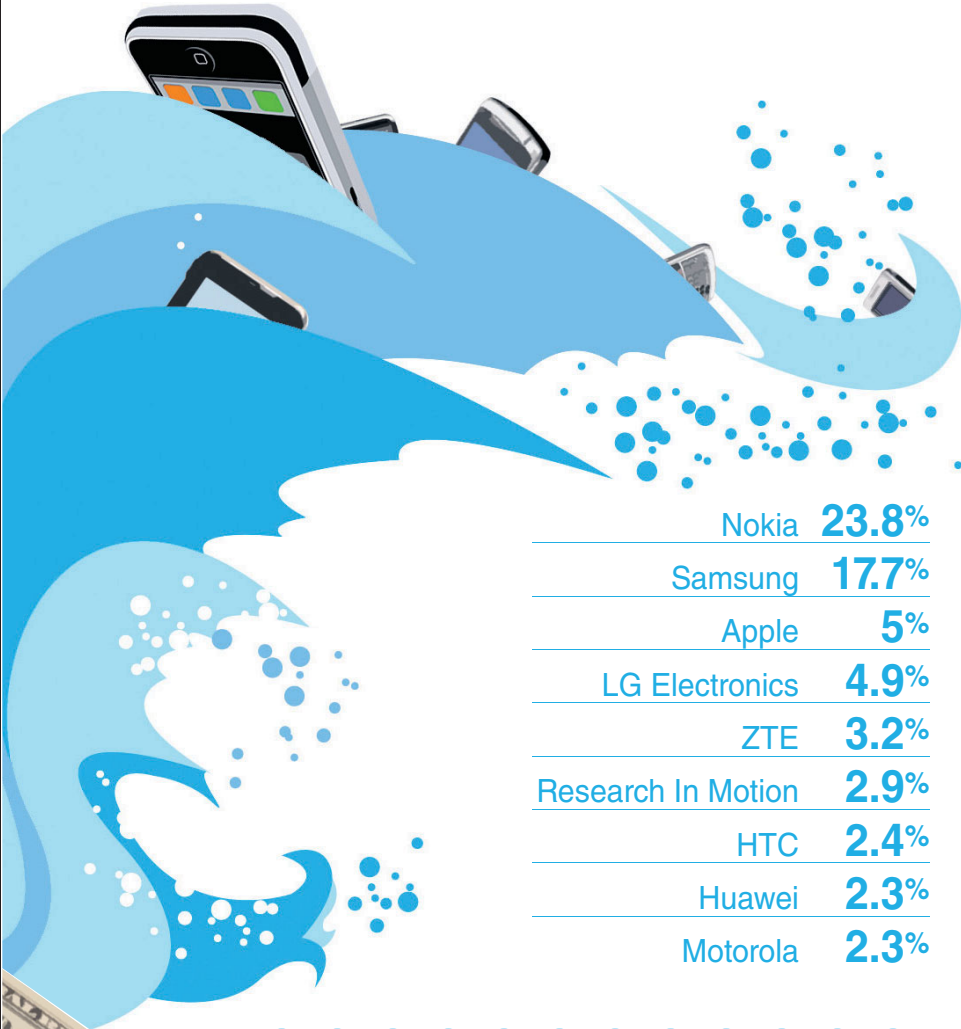


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Q4 2011 Surge  
In Smartphone Sales  
Leads To Record Increases

According to Gartner, fourth-quarter 2011 smartphone sales increased by 47.3% year over year, totaling 149 million units in that single quarter. In total for 2011, 472 million smartphones were sold, comprising 31% of all mobile device sales. Apple sold a record number of iPhones, making it the top smartphone vendor in the fourth quarter. Here's Gartner's breakdown of which mobile devices consumers purchased most last year around the globe:



Younger, Wealthier Consumers  
More Likely To Purchase  
Smartphones

A survey from Nielsen revealed that smartphone ownership is largely related to a person's age and income. Nielsen says that those earning more per year are more likely to own a smartphone in all age categories. Additionally, younger users, especially those aged 25 to 34, are more likely to own a smartphone regardless of their income. Below is the survey's breakdown of smartphone ownership in terms of age vs. income:

Those earning \$15,000 to \$35,000 per year:

Ages 18 to 24	53%
Ages 25 to 34	58%
Ages 35 to 44	44%
Ages 45 to 54	32%
Ages 55 to 64	17%
Ages 65 and older	15%

Those earning more than \$100,000 per year:

Ages 18 to 24	77%
Ages 25 to 34	80%
Ages 35 to 44	75%
Ages 45 to 54	60%
Ages 55 to 64	48%
Ages 65 and older	38%

Report Compares  
Windows 8 vs. iOS Devices,  
Raises Sales Projections

Though iPads are currently the clear winner in the tablet market, research firm Forrester predicts that Windows 8 will make a good showing when it's released, especially in the business market. The driver behind Win8's success will be ultrabooks, which Forrester sees as a viable competitor to Apple's widely loved iPad tablet. Win8 integrates the touch features of tablets with the more traditional laptop-style touchpad and keyboard interface. A recent survey conducted before Win8's developer preview was released found that 10% of 1,810 adults who plan to buy tablets will buy Win8 devices. In light of the trend toward tablets and ultrabooks, Forrester has revised its estimate of U.S. tablet ownership in 2015 from 82.1 million to 105.1 million, and it predicts actual sales per year will jump from 10.8 million in 2010 to 60.3 million in 2016.

WD's Hitachi/Viviti Technologies  
Acquisition Finally Complete

Western Digital announced the completion of its acquisition of Hitachi's hard drive business, Viviti Technologies. Western Digital paid \$3.9 billion in cash and 25 million shares worth about \$0.9 billion of common stock to Hitachi as part of the purchase. The company will operate WD Technologies and HGST as wholly owned subsidiaries. This acquisition will leave three main companies to compete in the hard disk drive market—Seagate Technology, Western Digital, and Toshiba. Although the acquisition was announced one year ago, the company was forced to wait for regulatory approval from authorities worldwide. Several changes and purchase agreements, including Western Digital's sales of intellectual property and manufacturing equipment to Toshiba, were made before the company received full approval.

Yahoo! Sues Facebook,  
Alleging Patent Infringement

Beleaguered Internet search company Yahoo! has filed suit against social networking titan Facebook for patent infringement. Yahoo! alleges that Facebook has infringed on 10 of its patents concerning customization, privacy, messaging, advertising, and social networking. The search company, which filed suit in San Jose, Calif., is requesting that Facebook pay all damages caused by the alleged infringements. For its part, Facebook says it will fight the charges, which it calls "puzzling" given the two companies' longtime business partnership. The suit is the first major move made by new Yahoo! CEO Scott Thompson, who took over in January four months after former CEO Carol Bartz made her departure.



Several Countries File  
Trade Complaint Against China

Officials in the United States, the European Union, and Japan have filed a trade complaint against China, citing unfair export restraints on materials used in various mobile devices. The countries behind the complaint claim China has placed unfair restrictions on export quotas and pricing requirements on rare earth metals, tungsten, and molybdenum, which are used in the manufacturing of electronics, automobiles, hybrid car batteries, wind turbines, and petroleum. Costs for the materials have been on the rise, largely because of the restrictions

placed by China, which produces 95% of these materials, according to the bringers of the complaint. The World Trade Organization has begun consultations with China as part of its dispute settlement process; if the matter is not resolved within 60 days, the parties in question may request a dispute settlement panel.

Date Set For Oracle vs. Google  
Patent Trial

April 16 is when Google and Oracle will go to court for the patent infringement case Oracle brought against Google concerning some Java technologies used in Google's Android platform. Oracle alleges patent infringement, while Google claims that Sun Microsystems worked closely with Google as Google developed Android and that Sun was an Android proponent; however, Oracle acquired Sun and now owns its technologies. The trial has been pushed back several times due to disagreements about validity of the complaints and confusion over the patents in question. Barring any changes, the trial will begin on April 16 with Judge William Alsup of the U.S. District Court for the Northern District of California presiding; it is expected to last about eight weeks.

Mobile Network Satisfaction  
Declines As Providers Struggle  
To Keep Up

A recent poll conducted by iPass found that customer satisfaction with mobile networks declined 25% year over year, with 62% of respondents claiming satisfaction with their mobile service in 2012, compared to 87% in 2011. iPass surveyed 1,800 workers between Jan. 11 and Feb. 3 and found that satisfaction with network speeds fell from 46% in 2011 to 34% this year, satisfaction with data coverage fell from 57% to 50%, and satisfaction with voice quality fell from 77% to 62%. iPass points to growing data traffic and an increase in the number of devices as the biggest factors in the decline in customer satisfaction, citing a CTIA report that shows a 111% increase in wireless network data traffic from June 2010 to June 2011; carriers find themselves having to limit data usage and beef up their networks to handle that increase in traffic.

FTC Issues Requirements  
For Western Digital Acquisition

The U.S. Federal Trade Commission is requiring Western Digital to sell assets related to its hard drive manufacturing processes in order to complete its acquisition of Hitachi Global Technologies. The proposed acquisition, according to the FTC, would be anti-competitive, allowing Western Digital to control a massive amount of the worldwide hard drive market after the acquisition. Western Digital's previous announcement that it will sell part of its assets to Toshiba was in response to the FTC's requests. Western Digital will pay \$4.5 billion for Hitachi Global Technologies, and all transactions with Toshiba are conditional based on the final approval of the acquisition.

John Fauteux Appointed  
As Server Tech VP

Server Technology recently appointed a new vice president of worldwide sales—John Fauteux, who previously worked for Avocent-Emerson Network Power as vice president of global sales. Fauteux also worked as vice president of branded sales, area sales director, regional sales manager, and strategic account manager at Avocent, in addition to working for Sprint and Tech Data before that. In total, he has more than 15 years of data center sales and management experience. Server Tech President Brandon Ewing offered his praise for Fauteux, saying he brings a new level of leadership to the company with a proven track record in the industry.

### ■ AMD No Longer Holds Stake In GlobalFoundries

Advanced Micro Devices released its 9% share in GlobalFoundries and is now focusing solely on chip design. AMD started the process of shedding its manufacturing operations in 2009, when it spun off its own manufacturing to GlobalFoundries while maintaining a stake in the company. In this new deal, AMD is paying \$425 million in cash for an updated chip supply agreement, in which it will now be able to use other chip manufacturers if it so desires. GlobalFoundries will now be wholly owned by Advanced Technology Investment Co. All of AMD's 1.06 million shares, estimated to be worth \$278 million, will be transferred.

### ■ Apple Says It's Helped To Create 514,000 U.S. Jobs

According to a study released by Apple and conducted by Analysis Group, Apple created or supported 514,000 jobs in the United States. The estimation includes jobs such as the delivery drivers for Apple products and those making the delivery vehicles used. Although it may be a stretch, Apple does employ full-time employees in all 50 states, totaling 47,000 at the company alone. Other contributing fields are directly associated with the development of Apple product components, both consumer and business sales, transportation, the construction of Apple stores, customer service call centers, and even app development for the iOS platform. Apple did not release a reason for publishing the figures.

### ■ AMD Buys SeaMicro

AMD is planning to buy SeaMicro for about \$334 million. The acquisition, according to AMD, is in response to the growing number of cloud solutions being employed at enterprises. With SeaMicro's fabric technology, AMD will be able to expand into the server technology market. AMD said the two companies' technologies combined will deliver a boost in performance and lower cost and complexity within the data center. SeaMicro was previously partnered with top chip-maker Intel. Intel says it plans to develop its own integrated fabrics, but according to analysts, the SeaMicro buy will give AMD a leg up in the dense server market. The acquisition is expected to be finalized by the end of this month.

### ■ IE Holding Out As Top Browser

Net Applications released its Desktop Top Browser Share Trend analysis, revealing that browser share has remained relatively unchanged quarter to quarter. Microsoft's Internet Explorer held on to about 53% of the market globally in February, the same percentage it held at the first of the year. Firefox and Chrome also maintained their shares at 20.9% and 18.9%, respectively. Net Applications also looked at the share of desktop vs. mobile browser usage. Smartphones and tablets have been increasingly taking slightly more share month to month in terms of usage, but PC browsing actually took back some of that share in February, rising to 92.5% from the 90.8% in January.

### ■ IDC Reveals State Of Ethernet Switch Market

According to an IDC report, global Ethernet switch revenues totaled \$21 billion last year. The countries accounting for most of the growth include Europe, the Middle East and Africa, Latin America, and the Asia-Pacific region; there was actually a slight decrease in Ethernet sales in North America. The market increased 5.5% year over year to \$6.06 billion. The fourth quarter of 2011 saw

the biggest increase in the Ethernet market, largely driven by 10 Gigabit Ethernet, which experienced a 33% increase year over year in terms of revenue. The report also revealed that Cisco Systems is still the top manufacturer in the 10 Gigabit Ethernet segment, holding nearly 70% of this market.

### ■ New Findings On Network Connections

Mathematicians at the University of California, Davis, have uncovered that too many data connections in a network may actually cause damage to the network's reliability. The researchers found that instead of many connections creating a redundant, strengthened network, too many connections can lead to massive failure if just one connection is faulty—meaning connected networks could be susceptible to cascading failures when overloaded. Although the study was centered on interlocked power grids, this theory can be applied to interconnected computer systems and networks. The researchers say these findings could be beneficial in balancing workloads within the cloud or even helping to manage DDoS (distributed denial-of-service) attacks.



### ■ Study: Big Data Still An Unfamiliar Concept To Many

LogLogic's recent survey helps to bring the term "big data" to light, revealing that many do not fully understand the term. According to the study, about half (49%) of respondents said they are at least somewhat to very concerned about managing big data, yet 38% said they do not completely understand what big data is. About 59% of respondents said they do not currently have the tools within their IT systems to manage big data. According to LogLogic, "big data is about many terabytes of unstructured data," and with the lack of understanding related to the management of such data, companies are leaving themselves exposed to risks and making ill-informed decisions.

### ■ New Federal CTO Named

The White House announced Todd Park as the new federal chief technology officer. Park was formerly the CTO of the Department of Health and Human Services. Before working in government, Park graduated magna cum laude from Harvard and founded Athenahealth, a healthcare tech business. During his time at HHS, Park helped to promote electronic health records and HealthCare.gov, a site that allows insurance comparison shopping. Park is also a supporter of open government practices and has voiced his support for a more open, efficient, and effective government body.

### ■ Quest Software Buys Back Stock, Becomes Privately Held

Quest Software became a private company after buying back all public stock in early March. Quest paid about \$2 billion for the shares, or about \$23 per share in cash. The offer is 19% higher than

the closing price of the stock the day before the announcement. Quest will be a privately held company co-owned by Insight Venture Partners and company CEO Vinny Smith, who owns 34% of the company, unless a buyer posts a better offer for the bought-back stock within the next 60 days. All operations will carry on uninterrupted and without change, including Quest's executive leadership, according to the Aliso Viejo, Calif.,-based company. Quest managed an 11.8% increase in revenue year over year to \$857.4 million in 2011.

### ■ Cloud Apps Give SMBs Competitive Advantage

According to a Dell-commissioned study, SMBs are now able to better compete with larger enterprises through the use of cloud-based solutions. Cloud business applications have helped to reduce costs, increase employee productivity, and improve cash flow at smaller businesses, according to the study. Of the 400 SMBs surveyed, 87% said cloud apps have brought a competitive advantage to their businesses. CRM applications have doubled in their usage rate from 24% to 55% among SMBs. The cloud applications most in use at SMBs, according to the study, are related to project management (54%), business analytics and intelligence (49%), payroll (48%), marketing automation (48%), and HR and performance management (43%).

### ■ February Search Engine Market Share Revealed

comScore released its latest data for search engine rankings during the month of February. According to the research firm, Yahoo!'s share of the search engine market continues to drop, while Google continues to dominate. Google sites accounted for 66.4% of the search market share in February, a rise of 0.2% from the month earlier. Microsoft sites accounted for 15.3% of the search share, Yahoo! sites accounted for 13.8% (down 0.3% from January), the Ask Network accounted for 3%, and AOL accounted for 1.5%. For reference, Google received 11.7 billion explicit core search queries in the month of February from U.S.-based home and work locations compared to Microsoft's 2.7 billion queries and Yahoo!'s 2.4 billion queries.

### ■ Group Releases Report Advocating For Women In IT

The Institute for Women and Technology has released a report titled "Solutions to Recruit Technical Women," in which it outlines a number of suggestions for how to increase the presence of women in the IT workplace. The report advises that recruiters for tech jobs should ensure that every job opening in IT has at least one woman candidate. To do so, the institute recommends building a gender-balanced internship program for such positions, revising job descriptions to reduce gender bias, using social networks to better reach female candidates, and implementing a blind résumé screening process to further prevent unconscious bias. Currently, it's estimated that women make up about 15 to

25% of the IT workforce and only about 8% of managers, and as of 2009, just 18% of computer science graduates were women.

### ■ Report: Social Media Monitoring Unused Now, But Not For Long

Recent research from SHARE and sponsored by IBM revealed that most enterprises are not monitoring social media for business purposes, but would like to in the future. According to the survey respondents, 75% are not currently collecting data from a social media network, but slightly more than half of these IT professionals plan to increase such monitoring in the next one to two years. The survey said Google is the No. 1 new social media BI vendor, followed by SAS and IBM. The most-used functions involving social media data monitoring and collection involved PR and communications, customer service, and sales and marketing initiatives, according to the report.

### ■ Storage Software Market Hits Record Annual Revenue

IDC's latest "Worldwide Storage Software QView" report shows that the storage software market posted record sales in 2011. Last year, revenue in this market increased 11.6% year over year to \$14.16 billion in annual revenue, the highest total this market has seen. In terms of the top storage software providers, EMC topped the list with 25.7% of the market, followed by IBM with 15.4% of the market and Symantec in the No. 3 slot with a 14.2% share. Other markets tracked by IDC that experienced significant growth rates year over year include the storage and device management market and the data protection and recovery market.

### ■ Survey: IT Buyers Prefer The iPad

According to a ChangeWave survey, IT buyers are far more likely to purchase the iPad than any other tablet device—accounting for 84% of the respondents' anticipated tablet purchases in the second quarter and 77% of enterprises' anticipated tablet purchases overall. Of all 1,600 respondents, 22% plan to purchase tablets for employees in the second quarter of this year. ChangeWave believes the anticipated second-quarter iPad purchases to be influenced largely by the release of the latest version of the Apple device. Rounding out the top five are Samsung, with 8% of planned purchases; Amazon, with 6%; HP, with 4%; and Asus, with 3% of planned purchases.

### ■ RIM Buys Paratek Adaptive RF

BlackBerry maker Research In Motion has announced that it is acquiring Paratek Adaptive RF for an undisclosed amount. RIM plans to use Paratek's adaptive radio frequency front-end components to improve its BlackBerry smartphones. Among the benefits of Paratek's RF technology are faster data uploads and downloads, which lead to longer battery life; intelligent antenna designs that make phones smaller and thinner; and improved user experience and fewer dropped calls via its "Tunable RF" technology. RIM plans to bring Paratek's engineers and executives onboard to further improve its technologies.

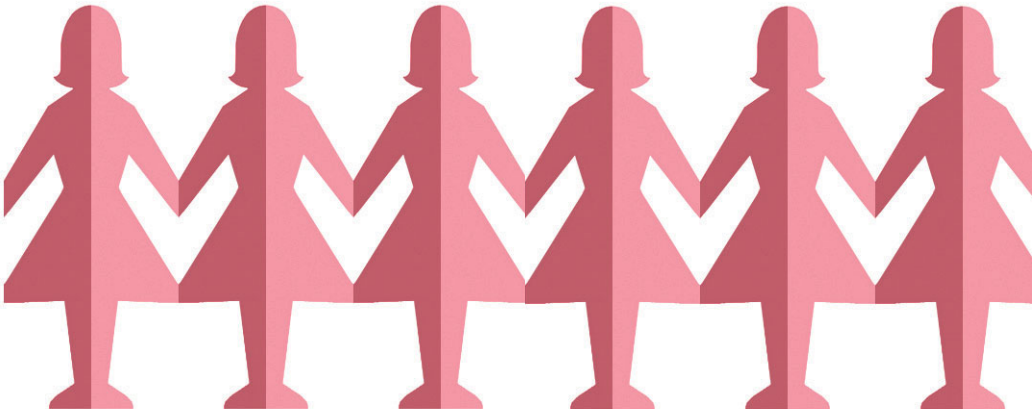


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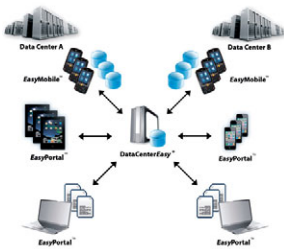
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  - Won't corrode steel, plastic, nickel, brass, zinc, copper, or other commonly used composites
  - IT applications, marine, wind turbine, vehicle engines, etc
- Ask for Ron when you call



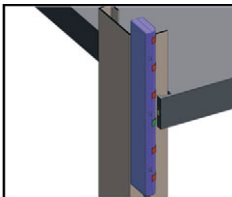
(800) 468-6888 | [www.fire-supression-systems.com](http://www.fire-supression-systems.com)

METHODE - DATA SOLUTIONS GROUP  
U-TRACK™

Don't be tied down when it comes to tracking your racked assets

U-Track™ is designed to provide asset-tracking data, precise to the actual rack unit position, to the Methode DCIM manager. Via a robust API, U-Track can feed live data into leading DCIM software suites on the market today. For the first time the expensive, time consuming, and operationally risky act of taking data center inventory is reduced to the push of a button.

- No tethering required
- Rapid Installation & Set-up
- Installed without interfering with or removing in-rack equipment



To see the U-Track, Visit Booth 601 at AFCOM

(888) 446-9175 | [www.methode.com/data](http://www.methode.com/data)

CHENBRO SR112  
HIGH END SERVER CHASSIS

The SR112 High End Server Chassis from Chenbro is designed to be a power storage server platform. It measures 16.7 x 24.4 x 8.7 inches (HxWxD) and has several drive bay options, including eight hot-swap 3.5-inch, two external 5.25-inch, and two external 3.5-inch bays (16 hot-swap 2.5-inch or internal drive options available).

- Chassis is Intel Romley Compatible
- Powerful and flexible thermal solution: 3 x 92 mm (T=38 32, or 25 mm) middle fan for different CPU solution
- Optional 4/8 x 3.5-inch hot-swap/fixed or 8/16 x 2.5-inch hot-swap HDD configuration
- Rackable solution by optional kit

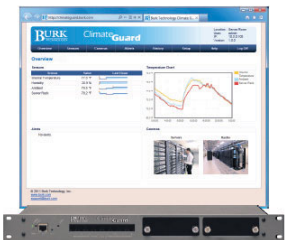


(909) 947-3200 | www.chenbro.com

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SERVER ROOM ENVIRONMENTAL MONITOR

Environmental problems in the server room can cause costly downtime, damage expensive equipment, and even lead to loss of mission-critical data. Climate Guard monitors temperature, humidity, flood/leak, and many other conditions that can cause serious IT disasters. Email, SMS and SNMP notifications ensure that responsible personnel can respond quickly and effectively. Pricing starts at \$895.

- Modular design lets you to add capacity and features
- Built-in temperature, light and sound sensors
- Spot trends and prevent problems from developing with onboard charting



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AIR GUARD® CABLE SEAL GROMMETS

Seal raised floor cable openings with the Air-Guard Cable Seals and realize immediate cost savings in your data center.

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AIR CONDITIONED COMPUTER CABINET

Uptime Racks' air conditioned cabinet delivers the highest cooling capacity in the industry, while using no additional floor space. The 13,000 Btu/hr cabinet provides secure and reliable cooling to mission critical IT equipment. Uptime Racks are the ideal cooling solution for small IT closets or large data centers, providing efficient primary, supplemental, or back-up cooling.

- High Cooling Capacity: 13,000 Btu/hr @ 115V
- Cabinet cooling powered by MovinCool
- 32U of available rack space
- Environmental monitoring
- Cold Aisle/Hot Asile configuration
- Plug-and-Play installation



(303) 908-8043 | www.uptimeracks.com

MODIUS® OPENDATA  
DATA CENTER INFRASTRUCTURE MANAGEMENT

OpenData software by Modius helps resolve data center problems that impact business continuity and energy efficiency. OpenData provides real-time fault and performance monitoring of the extended power and cooling chains, as well as the decision support that makes it possible to optimize system performance against IT demands. By continuously monitoring and analyzing comprehensive, granular, time-series data, OpenData makes troubleshooting easier and forecasting capacity requirements more reliable, reducing operational costs and risks. Plus, OpenData is massively scalable across devices and locations, providing multi-site views through a single pane of glass.



(888) 323-0066 | www.modius.com

PLENAFORM  
PLENAFILL

**PLENAFILL® 27U SCALABLE BLANKING PANELS** takes the guesswork out of "How many blanking panels do I need?"

**PLENAFILL® 27U SCALABLE BLANKING PANELS** are separable from 1 to 27 RU's and are highly effective at isolating bypass airflow in server racks. They improve thermal isolation in containment systems and in hot/cold aisle configurations lowering equipment operating temperatures.

- Fits 19" EIA310D racks - also available in 23" widths
- Fits snugly against rails - No air gaps between U's
- No cage nuts or assembly required
- Also available in white which improves light levels and makes it easy to find open rack spaces.

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METHODE ELECTRONICS, INC.  
ME SERVER ENCLOSURES

Methode's CTI branded enclosures are designed to accommodate servers and the challenging conditions associated with them, from high density population to extensive cable management, power and cooling requirements. With 100% usable RU space, the ME Server Enclosure can act as a server or network enclosure in both high and low density applications.

- Construction
  - 14 gauge frame, formed for strength
- Cable Management
  - Increased rear vertical capacity (over 9")
- Power Handling
  - Up to 2 vertical troughs & 1 PDU or 1 vertical trough & 2 PDUs per rear corner
- Contour Mesh Doors
  - Standard front and rear
  - Increased area of mesh & total airflow



(888) 446-9175 | www.methode.com/data

STULZ  
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Introducing STULZ CyberRow® Intelligent Rack Cooling Solution, an advanced precision air conditioning unit. With cooling configurations for hot-aisle and cold-aisle capture, in both open and contained spaces, STULZ CyberRow will integrate seamlessly into new and existing data centers, providing years of low cost reliability. STULZ CyberRow is a standalone A/C unit and is installed and operated independently from the rack. This complete separation of the rack and the A/C unit increases reliability and provides greater freedom for designing the layout in the data center. STULZ also offers a full line of energy efficient precision air conditioners and ultrasonic humidifiers for precision cooling. For more information about STULZ and their products, email info@stulz-ats.com or visit www.stulz-ats.com.



(301) 620-2033 | www.stulz-ats.com

WILSON ELECTRONICS DB PRO CELLULAR SIGNAL  
BOOSTER FOR HOME OR OFFICE USE BUNDLE KIT

Now featuring adjustable gain to simplify installation! The DB Pro cellular signal booster is Wilson's dual-band (800 & 1900 MHz) wireless amplifier for use in homes, offices and other buildings. The DB Pro improves voice and data performance for multiple cell phones and data cards simultaneously, and works with all major North American cell phone carriers, including Cellular (824-894 MHz) and PCS (1850-1990 MHz) carrier frequency bands. This 65 dB in-building booster combines high performance with ease of installation, and can be used with an outside Omni-directional gain antenna with multiple mounting options that eliminates researching cell tower locations and antenna orientation.



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- No Wires to Deal With
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- Real Time Alerts via Text or Email
- Multiple Sensor Types Available



(877) 561-4555 | www.monnit.com

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NAS, iSCSI, FC STORAGE APPLIANCES

JETNAS provides a full range of NAS, iSCSI, FC storage solutions in different form factors from 1U to 4U rack-mounts and Towers to meet your business needs and to secure your critical data. Our JETNAS appliances combine high density storage capacity and advanced redundancy, scalability, availability, and management functionality.

- Hardware RAID with SAS2, SATA3 Enterprise drives
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- 4 X 10 Gigabit Ethernet, Network bonding supported
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- No additional cost for clients and capacity expansion



(888) 227-2926 | www.JETNAS.com

eRACKS/NAS50

The eRacks/NAS50 is a network attached storage file server with the capacity to house 150TB of data. These servers are fully customizable to fit your business needs.

- Can be fitted with both SAS or SATA hard drives and support fast SATAIII for 6Gbps transfers
- Processor choice can be from the full line provided by Intel or AMD
- Boards can be fitted with 512GB of DDR3 memory, 10GbE network cards, the latest NVIDIA or AMD GPUs, and 6GBps RAID controller cards
- Intelligent Platform Management Interface lets you manage and monitor the servers from a remote location



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OCC PROCYON CABLING SOLUTIONS

Procyon is a family of structured cabling products featuring industry-leading performance, density, accessibility and cable management features designed for use in various applications, including data centers. OCC's Procyon family of products includes copper and fiber panels with integrated cable management systems, high-density fiber cassettes, cabinets, and more.

- High density in smaller spaces
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- Ability to make adds and changes with little downtime
- Integrated cable management features
- Unfettered access to individual ports
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ASSET TRACKING RFID SOLUTION

Fluensee AssetTrack™ is a proven, cost-effective RFID-enabled software solution that allows companies to significantly improve the visibility, security and utilization of their physical assets. Knowing where your assets are and when they move, helps you gain more control and streamline your operations.

- Configurable management dashboard allows users to view the most relevant asset data
- Hardware-agnostic capability captures data from RFID, GPS, barcode or sensor technology based on your needs
- Mobile inventory application allows use of handheld devices for inventory tracking and management
- Flexible integration allows information to instantly be shared with existing management applications

(303) 799-0700 | [www.fluensee.com](http://www.fluensee.com)




FIKE'S ECARO-25®  
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Fike's ECARO-25 clean agent with Impulse Technology is the best way to suppress fires and protect your high-value assets and business continuity. ECARO-25 features the unique fire extinguishing agent FE-25™ by DuPont™, which absorbs heat energy at its molecular level faster than the heat can be generated, so the fire cannot sustain itself.

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SL-500X™ SERVERLIFT

The slim 24 inch frame sits on four oversized swiveling castor wheels, allowing it to easily maneuver around data center aisles. The unit is designed to load equipment from the side rather than the front, for a more intuitive operation and seamless installation. Aligning equipment is simple with an ultra-rigid platform featuring a unique Easy-Glide Shelf for added support into the rack. Safety is essential and the TouchSTOP™ Sensor stops the unit on contact with the ceiling, cable trays, or other overhead obstructions. Inspired by data center needs, the SL-500X™ ServerLIFT is the embodiment of power and elegance.

- Protect your people
- Reduce costs
- Improve productivity by 100%
- Streamline server deployment

(602) 254-1557 ext. 3000 | [www.serverlift.com/itt](http://www.serverlift.com/itt)



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FEATURED PRODUCT

# A Whole New Level Of Storage

Aberdeen’s Petarack Offers More Than A Full Petabyte Of Fast, Flexible & Secure Storage

**FOR MOST SMBs AND ENTERPRISES**, there is an ever-changing target for total storage capacity. It used to be that a few terabytes would be enough, but with technology evolving faster than ever before, there is always room for additional storage. Aberdeen saw this need for almost unlimited storage and is attempting to fulfill it with its new Petarack storage solution, complete with a total capacity of 1,080TB, or 1 petabyte. But the company knew it couldn’t hastily design its product and ship it out to market before it was ready, so it took ample time to find the perfect balance of storage and data protection features.

“Putting a petabyte together and actually making it work was a challenge,” says Niso Levitas, manager of research and development at Aberdeen (www.aberdeeninc.com). “To my knowledge, no regular OS can recognize and serve that amount of storage securely and no hardware RAID controller can combine more than 32 drives as a single array. We started with a no-limit ZFS file system, which was the only one that could protect all this data and present it outside the box at an incredible speed. It took eight months and a team of engineers to deliver a product we could be proud of.”

### Customers Inspiring Innovation

At Aberdeen, innovation always starts with the needs of the customer, so the company set out to find the most important features customers were looking for and combine them into one solution. “Our customers loved our Linux NAS and Windows NAS products but demanded more sophisticated shared or block-level storage with enterprise features, such as unlimited snapshots and volume mirroring,” Levitas says. “They wanted to be able to share more than 64TB of storage, which was the single array limit, as well as have file system flexibility, server houses, video houses, and shared storage with native file systems.”

Aberdeen understood the frustration of customers that needed high-capacity storage solutions that wouldn’t skimp on speed but also wouldn’t break a business budget. Through extensive research and development, the company was able to give customers everything they wanted, including more than a full petabyte of storage, for only \$495,000.

### High-Capacity Storage & High-Speed Performance

With the Petarack, it all starts with capacity. To reach the large capacity

goal of 1PB, Aberdeen’s solution comprises eight JBODs, each with 45 SAS drives holding 3TB of storage apiece. With a total of 360 drives, the Petarack provides 1,080TB of storage. One of the most beneficial features of the product is how much data center room it saves, because all of this storage is available in a single 42U rack. This gives you enough space in your data center to hold multiple Petarack configurations or to simply fit it in to your existing server and storage environment.

When designing the Petarack, Aberdeen not only set out to reach the highest storage capacity, but also some of the highest network and transfer speeds possible for a storage solution. “Petarack can act as a Ferrari or it can pull loads like a big rig,

Fibre connections, you can install Fibre Channel adapters and use the Petarack for RAW Fibre SAN storage. Even then, there is still room for more performance. “You could fill all the slots in a Petarack with Fibre cards and you wouldn’t be able to reach its full potential,” Levitas says.

### Supported Applications, Industries & Environments

Aberdeen designed the Petarack to be used in a variety of industries and environments. But according to Levitas, virtualization and cloud computing are two areas where the Petarack can shine based on sheer capacity. Because Aberdeen’s storage solution is scalable, it can be used to support cloud computing environments of different sizes and grow



depending on your configuration,” Levitas says. “It is configured with dual six-core Xeon processors, can be configured with up to 192GB of memory and utilize most of it as cache, and it can be configured with enterprise-level SSDs as a second layer of cache for demanding NFS.” And Levitas says that Aberdeen is working on accommodating up to a terabyte of memory in the future.

The Petarack comes preconfigured with 10 Gigabit Ethernet, which can be directly connected to backbone network switches. Companies can also choose to add more 10GbE cards or InfiniBand for HPC, according to Levitas. If you prefer

depending on the current needs of the company. Instead of investing in multiple racks and storage solutions, you can simply add more storage or Ethernet cards to increase and improve cloud performance. With virtualization, a petabyte of storage can be used to serve hundreds of virtual desktops, if it is set up and configured correctly, Levitas says.

Levitas also points out that the Petarack is perfect for “video applications and broadcast companies with Mac and Windows editing workstations” as well as for high-performance data clusters with “powerful CPUs and massive amounts of memory configurations.” These uses are

### ABERDEEN PETARACK

**(800) 500-9526**  
**www.aberdeeninc.com**

The Petarack is a high-capacity storage solution that supports a petabyte or more of storage and provides high-speed performance for even the most demanding data centers. The Petarack is also flexible enough to adapt to and grow alongside your company to fulfill all future storage needs.

only the tip of the iceberg, because almost any company that is searching for an ultra-high-capacity storage can take advantage of the Petarack.

### Flexibility For The Future

The Petarack is packed with capacity and prepared for even the most demanding storage needs, but perhaps the most important feature of the Petarack is its flexibility. In addition to its standard configuration of 360 drives and 1,080TB of storage, there is even room in the rack to add an additional 45 drives for an extra 135TB with a ninth JBOD. And if you choose to stick with the original configuration, you have plenty of extra space for Ethernet networking cards or host bus adapters to improve speed and performance. Ultimately, the Petarack is designed to fulfill your current needs but is also flexible enough to grow with your company.

“You can start with terabytes of storage and then easily grow it to petabytes,” Levitas says. “You can add cards to increase the connectivity and bandwidth, while only incurring the costs of the cards themselves. You can add another Petarack and replicate it onsite or offsite. You won’t hit capacity limitations, you have unlimited snapshots, and you can grow the Petarack to your liking. It’s a no-limits system.”

### Data Protection & Downtime Prevention

If you're storing up to a petabyte of data on one system, you'll want to ensure that data is thoroughly protected. That why the Petarack “uses the incredible ZFS file system with copy-on-write technology and an end-to-end checksum method to avoid silent data corruption,” according to Niso Levitas, manager of research and development at Aberdeen. On the hardware side of things, Aberdeen has taken measures to help companies avoid downtime and make sure that their massive amount of data is always available to them. “The Petarack has redundant head units so that a complete head unit or other component failure will not affect productivity,” Levitas says.

“Putting a petabyte together and actually making it work was a challenge. To my knowledge, no regular OS can recognize and serve that amount of storage securely and no hardware RAID controller can combine more than 32 drives as a single array.”


- Aberdeen’s Niso Levitas

PRODUCT SPOTLIGHT

# Data Center Infrastructure

Product

## AlphaPoint AssetCentral



Description


AlphaPoint's AssetCentral data center management solution helps IT visually track and manage hardware assets within the enterprise, providing a more accurate method of tracking assets and changes vs. traditional spreadsheets or generic drawing tools. AssetCentral LITE is AlphaPoint's new entry-level solution designed to get companies quickly started with IT asset management and DCIM. The AssetCentral LITE Edition takes the risk out of manual processes and spreadsheets. The AssetCentral LITE Edition is free up to 100 devices and available for immediate download and deployment.

- Rack Elevations displays actual images of assets within a rack
- View the location of racks and assets from high-level worldview
- Generate reports based on various metrics, such as power consumption or financial metrics
- Obtain accurate counts of inventory for auditing
- Web-based solution can be used by various devices, including servers, laptops, and tablets

**Best For:** Data centers within enterprises or serving as the backbone for hosting providers.

**Contact:** (941) 896-7848 | [www.alphapointtechnology.com](http://www.alphapointtechnology.com)

## Cormant CableSolve




CableSolve from Cormant is a mobile IT infrastructure management solution that consolidates all data concerning an enterprise's IT assets and related connectivity, including power and data connectivity and asset location and status information. CableSolve tracks assets wherever they're located to provide complete portability of all records and ensure that data is always up-to-date.

- Consolidates existing records (spreadsheets, drawings, etc.) into a central repository to produce one source of trusted data concerning physical layers of IT infrastructure
- Vendor-neutral, enabling support for current and future equipment
- Fully portable/mobile platform is accessible offline or via mobile devices
- Robust scripting module enables reading/writing to network-accessible equipment

**Best For:** Medium-sized to large organizations with relatively large-scale IT infrastructure.

**Contact:** (805) 747-4178 | [www.cormant.com](http://www.cormant.com)

## Geist DCiM Division Environet



Geist DCiM Division's Environet features an intuitive UI that provides a visual representation of data that's collected, enabling users to instantly recognize problem areas. The UI requires less time to learn so users can spend more time managing the data center. Environet is completely vendor-neutral, and more than 250 implementations are currently installed worldwide.

- Communicates with any equipment using SNMP, Modbus, BACnet, Hardwired I/O, LonWorks, and Niagara to enable compatibility with many third-party proprietary systems
- View highs and lows, problem areas, consumption rates, and more
- Power one-line and capacity-planning features enable viewing how energy is used and how to disperse it more accurately
- Uncover stranded capacity and reduce energy usage, plan for future expansions, and effectively extend a facility's useful life

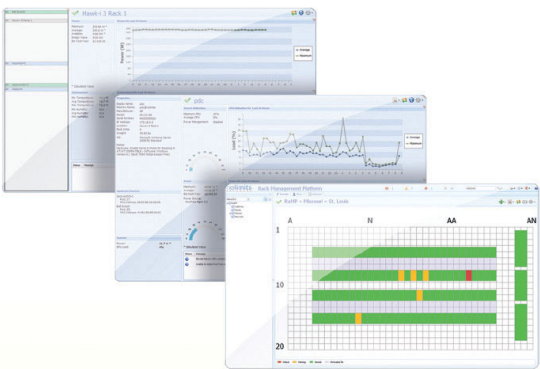
**Best For:** Companies of any size, from those with a single server room to those with multiple locations.

**Price:** Based on the number of equipment and points managed

**Contact:** (877) 449-4150 | [www.geistif.com](http://www.geistif.com)

Product

## No Limits Software RaMP



Description

No Limits Software's RaMP solution provides a consolidated view of IT and facilities, enabling users to view the data center as a whole rather than as a sum of individual views. RaMP auto-discovers data related to equipment and provides power, cooling, and environmental monitoring for all critical equipment, as well as automatically tracks all changes to devices.

- Automated asset management and change monitoring
- Real-time monitoring
- Enhanced capacity planning
- Server monitoring
- Web and handheld interfaces
- Software license management

**Best For:** Enterprise-level asset and change management and data center monitoring.

**Price:** Tiered pricing based on number of managed devices

**Contact:** (314) 469-2766 | [www.nolimitssoftware.com](http://www.nolimitssoftware.com)

## Packet Power DCIM Solution




Packet Power provides a whole-system DCIM solution via its easy-to-implement wireless data center power and environmental monitoring hardware and software. Data centers can use the components as a complete DCIM solution or to exchange data with other applications via SNMP.

- Tracks detailed power usage at the device, rack, and distribution panel on circuits ranging from 10 to 2,000 amps
- Captures detailed temperature data at up to six points per cabinet
- Monitors relative humidity, differential pressure, and dry contact devices
- Robust, secure, self-configuring wireless network enables easy installation

**Best For:** Data centers seeking easy, affordable, and advanced data center monitoring.

**Contact:** (877) 560-8770 | [www.packetpower.com](http://www.packetpower.com)

## Premier Solutions DCIM Solutions



Premier Solutions helps customers build a DCIM program tailored to specific management and monitoring needs, whether the operation covers 1,000 square feet in a small office or 1 million square feet spread across multiple facilities. The company has successfully completed more than 45 physical infrastructure build-outs, provided optimization services, and managed server access for more than 50 million square feet of space.

- Represents leading providers of DCIM software
- Creates DCIM platform through integration of operational and environmental efficiencies
- Helps configure automated historical data-measuring processes and automated processes for best managing data centers

**Best For:** Data centers of any size seeking a tailor-made DCIM solution.

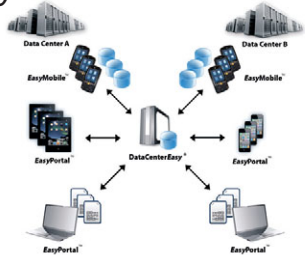
**Contact:** (714) 557-5800 | [www.premiersolutionsco.com/dcim](http://www.premiersolutionsco.com/dcim)

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

# Management Solutions

## Information Systems Associates DataCenterEasy®



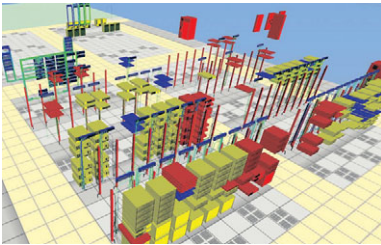
Information Systems Associates' DataCenterEasy® provides Mobile Data Center Asset Management abilities on handheld devices, including accessing asset data from anywhere at any time. IT can reduce time and energy needed to manage data center changes and perform asset inventories while improving asset management data accuracy.

- Includes DataCenterEasy® (server), EasyPortal (Web clients), and EasyMobile® (handhelds) components
- Purpose-built for data centers
- Client server platform
- Multisite view and management abilities
- Wireless synchronization

**Best For:** Data centers of all sizes.

**Contact:** (702) 577-3404 | [www.datacentereasy.com](http://www.datacentereasy.com)

## iTRACS Converged Physical Infrastructure Management™



iTRACS' open, enterprise-class DCIM solutions drive efficiency and continuous business value in the data center. The company's Converged Physical Infrastructure Management™ software portfolio is deployed in complex physical infrastructures worldwide.

- Information-rich decision support platform with deep-dive business analytics and intuitive understanding of interconnectivity
- Interactive 3D Visualization provides a single point of management via an interactive, navigable 3D environment enabling command and control over entire IT ecosystem
- What-if scenarios with predictive 3D modeling validate the impact of moves, adds, and changes before you make them
- iTRACS PowerEye™ provides best-practices strategy for optimizing energy efficiency and power management
- iTRACS Customer Value Lifecycle™ – proven deployment methodology for generating continuous business value from your DCIM investment

**Best For:** Data centers in which efficiency is paramount.

**Contact:** (480) 557-8000 | [www.itracs.com](http://www.itracs.com)

## Modius® OpenData



OpenData software by Modius® helps resolve data center problems that impact business continuity and energy efficiency. OpenData provides real-time fault and performance monitoring of the extended power and cooling chains, as well as the decision support that makes it possible to optimize system performance against IT demands. By continuously monitoring and analyzing comprehensive, granular, time-series data, OpenData makes troubleshooting easier and forecasting capacity requirements more reliable, thereby reducing operational costs and risks.

- Operational intelligence: the real-time power consumption, system performance, and environmental changes presented in dashboards and reports
- Multi-site views through single pane of glass
- Vendor-neutral and scalable across devices and locations
- Unified alarm monitoring and management
- No coding required to add new devices or deploy across multiple sites

**Best For:** Ideal for medium- and large-sized data centers and critical facilities with hundreds or thousands of systems spanning multiple sites.

**Price:** Simplified pricing based on the device type

**Contact:** (888) 323-0066 | [www.modius.com](http://www.modius.com)

Do you have a new product  
that data center/IT managers would  
be interested in learning about?

Send your press release or related product information  
to [press@processor.com](mailto:press@processor.com).

BUYING TIPS:

# Data Center Infrastructure Management

**INCREASINGLY**, data center managers are eyeing DCIM (data center infrastructure management) solutions for the numerous benefits they can afford by providing a holistic view of data center and facilities infrastructures. Solutions enable IT to view real-time power and temperature usage data on a granular level and provide monitoring, management, automation, optimization, and capacity and budget planning capabilities, all of which lead to the streamlining of operations and improving energy consumption and overall efficiency. The following offers advice for purchasing DCIM solutions.

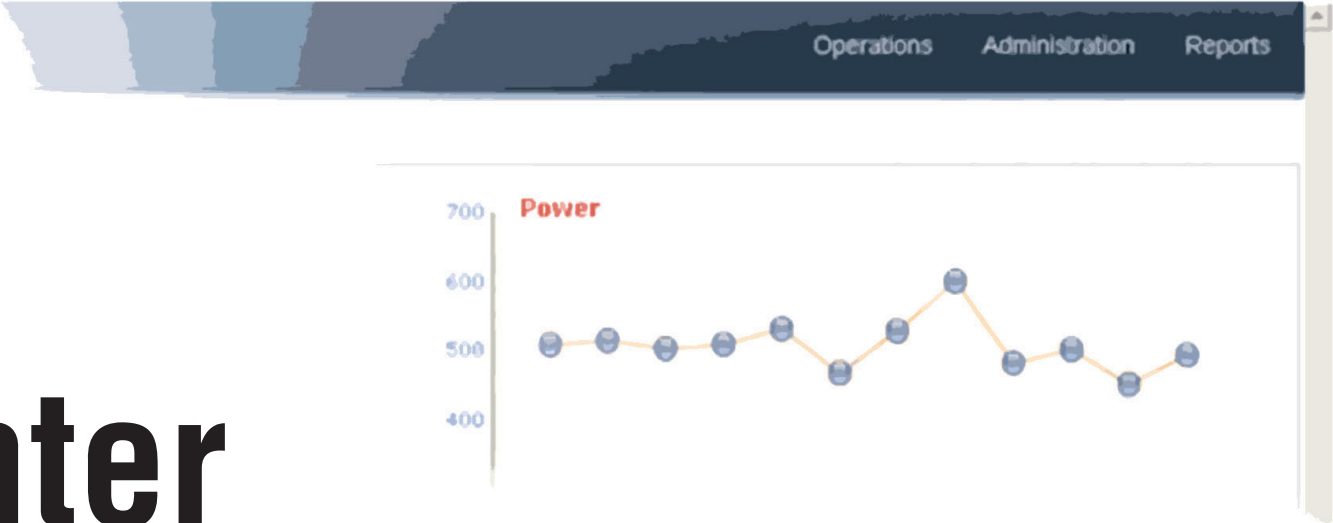
**Gauge what you need.** According to Steve VanTassel, CEO of Packet Power ([www.packetpower.com](http://www.packetpower.com)), the DCIM space is currently broad and evolving. Some platform-structured solutions provide a full scope of service, while numerous “point” providers offer “more limited function but may also be deeper in capability within their niche or significantly less expensive,” he says. When comparing solutions, consider what your greatest need is and your ability to fully use the platform’s tools. For example, determine whether you have the resources in place to address issues the DCIM solution uncovers and change the facility or operating procedures to enable improvements. “Most companies have limited resources and will need to begin with one or two aspects of DCIM,” VanTassel says. If choosing a point solution, he says, ensure that it supports such standards as SNMP to improve the odds it will work with other vendors’ systems you might add in the future.

**Seek an easy migration.** Rather than recreating the wheel, says Brett Femrite, director of business development at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)), seek out a DCIM solution that supports easily migrating existing data to the new system. For example, if you’re currently maintaining multiple spreadsheets, CAD drawings, and other diagrams, he says, “migrating that information into the DCIM solution easily will be a lifesaver. Automation is key.” The solution should allow managers to start small and work up to added levels of sophistication in phases, he says, adding that “Flexibility can breed complexity, and while a full-featured DCIM solution can seem complicated, getting started doesn’t have to be.” A modular solution that enables initially buying what’s needed and layering in additional features gradually is a nice benefit, he says.

**Must-haves.** According to Willie Bloomstein, market strategist at iTRACS ([www.itracs.com](http://www.itracs.com)), must-have DCIM features include a highly scalable solution “with an open, heterogeneous platform architecture that parallels the approach used

for the logical layer—a platform that integrates IT with facilities/building systems management and democratizes information across multiple constituents.” The solution should also support devising what-if scenarios. “This includes predictive modeling of what-if scenarios so you can see the future and plan for it before it happens; ‘trial and error’ models that test and confirm the impact that changes to the physical layer have on your logical layer, where the heart

of the business lies; and the ability to do all of this testing and predictive modeling of change not in the lab or on the floor, but in the safety of DCIM software with no danger to the live environment,” Bloomstein says. Another must-have feature is automation. “You need a DCIM decision-support platform with the brains and the brawn to automate workflows and accelerate—and simplify—decision-making across a full range of DCIM tasks,” Bloomstein says. **P**



## BUYERS’ CHECKLIST

- ✓ **Obtain standard support.** Most companies have tools in place that a DCIM system will replace, such as manuals and spreadsheets, says Packet Power CEO Steve VanTassel ([www.packetpower.com](http://www.packetpower.com)). A vendor-neutral DCIM solution with standards support, he says, will lessen the odds of having to undergo another migration in the future.
- ✓ **Plan for the future.** A DCIM solution should support capacity and optimization planning, offering tools that help “determine future requirements for power, cooling, floor space, rack space, and contingency planning,” says Brett Femrite, director of business development at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)).
- ✓ **Factor in implementation costs.** When choosing a solution, factor in costs related to implementation planning and providing network connectivity to monitoring devices, VanTassel says.
- ✓ **Don’t mistake monitoring power for managing power.** “Monitoring energy usage at the device level gives you mere data—a single-dimensional perspective on a specific device at a specific point in time, without context,” says Willie Bloomstein, market strategist at iTRACS ([www.itracs.com](http://www.itracs.com)), who explains that this fragmented data is of little use because it’s without context. Conversely, he says, “managing energy usage across the entire power chain is where the true gains in energy efficiency can be made.”

## KEY TERMS

- Point solutions.**  
Many DCIM vendors offer only one or two DCIM components, or points, rather than an entire suite of DCIM tools.
- Simple tools.**  
Spreadsheets and diagrams are examples of simple tools that managers have historically used to monitor data center assets. Some DCIM solutions can import data from these tools, as well as automatically perform an initial discovery of asset-related data.

FEATURED PRODUCT

# Scalable Storage To Meet Any Need

Get Monster Storage Space With The NAS50 From eRacks

**A MONSTER.** That’s how eRacks’ General Manager Max Haskvitz describes the company’s NAS50. Specifically, Haskvitz says the NAS file server is a “low-footprint, high-density, self-contained storage monster.” Capable of storing up to 200TB in one unit measuring 15.6 x 16.9 x 27.2 inches (HxWxD), the NAS50 is billed as one of the highest-density storage solutions in the world that’s constructed specifically for data-hungry businesses.

“It has redundancy, speed, power, and, of course, massive blocks of storage,” Haskvitz says. “Any business that has files that it needs kept safe could use a NAS50, and as with all our products, if you don’t need 200TB, you don’t need to buy 200TB. We can customize the solution to fit your needs.”

Built To Serve

Customization is a staple of eRacks’ customer service. In addition to installing up to 50 SAS and SATA drives with support for 6Gbps SATA 3 transfers, eRacks offers customers the choice of using either Intel or AMD processors. Available Intel options include Xeon E5 series or W3400 processors for single-chip implementations



and Xeon E5, E5500, and E5600 series and X7500 series options for dual- and quad-core configurations. AMD options include Opteron 4200 and 6200 series for dual- and quad-core configurations and Opteron 6200 Bulldozer CPUs for supporting 16 physical cores.

In addition to a dual-, quad-, or multi-core AMD Opteron or Intel Xeon processors, a default NAS50 configuration includes a 1620W redundant PSU (3+1), single or dual AMD Opteron Series 6200 or Intel 5000X Series motherboards, up to 512GB of DDR3-1333 memory, a 24-port 3ware SATA II/SATA 3/SAS/SAS-2 RAID card (0,1,5,6,10, 50 RAID options), and a Slim CD-ROM drive.

Haskvitz says eRacks configures the NAS50 to be as user-friendly as possible, offering customers different software interfaces to suit their enterprise needs. “From Mint Linux to FreeNAS to Windows Server—you name it, we can customize it,” he says. Beyond the NAS50’s prowess as a storage solution, Haskvitz says the NAS50 is also a great fit for remote cloud storage or virtualization applications, “as the CPU, memory, and RAID options

are so expandable you could have up to 64 cores and 512GB of memory if you needed it, on top of your block storage.” Additionally, eRacks offers scads of connectivity and drive options for the NAS50, including everything from “SATA 3 to SAS-2 7.2K, 10K, and 15K; fiber, iSCSI, and 1/4/10/20/40/100GbE networking; and even external SAS,” Haskvitz says.

Smart & Simple

Although the NAS50 is the most versatile storage device eRacks has created, Haskvitz says the company constructed it so as to keep the design simple but not saddle it with a “dumbed-down feature set.” As with the other storage systems that eRacks offers, Haskvitz says, the company doesn’t want the NAS50 to be intimidating.

“The development of the NAS50 was basically this: People don’t want to buy three to four NAS units,” he says. “They want one, and they want as much storage as they can throw on it. We created the NAS50 as a way to replace multiple [other vendors’] options. Not that there is anything wrong with those, but we always like to offer an open-source alternative to any storage device out there.”

eRacks also aims to make the NAS50 suitable for working in any environment and save its customers money. “So, cutting

out a license or overpriced support option and just bundling everything together to save companies up to 40% on their storage costs is something we are pretty happy about,” he says.

Going The Extra Mile

Haskvitz says that at the end of the day, SMB and enterprise clients are attracted to the NAS50 because it saves them money and provides them the means to build a storage solution that’s customized to their needs. “We will do everything we can to make our solutions work for your situation, be it 100,000 users or just five,” Haskvitz says. “Either way, we give you the attention and hardware solutions you need.”

ERACKS OPEN SOURCE SYSTEMS NAS50

NAS rackmount servers that customers can provision with such software as ZFS, NFS, RAID, and rsync to create a complete cross-platform file storage solution with up to 200TB of storage space in one unit.

Starts at \$10,395

(714) 532-5322  
www.eracks.com

FEATURED PRODUCT

# Products Prepared For Real-World Use

Server Technology & PDUs Direct Know The Importance Of Product Testing

**MOST COMPANIES PERFORM** some form of testing on their products to ensure that they are in good working condition before being shipped to customers, but Server Technology, experts at producing the highest standard of quality PDUs, goes above and beyond basic testing with its 100% Product Performance Testing. The process includes putting each product through a series of tests designed to push it to its limits, which results in high-quality products with low failure rates.

The reason Server Technology decided to perform these tests on every product for 27 years is much simpler than you may think. “The worst thing for a customer is to open a box, plug a product in, and it doesn’t work,” says Jim Scherr, director of sales and operations at PDUs Direct (www.pdusdirect.com), the master distributor of Server Technology PDUs. “The overarching reason for doing the power testing is simple: to make sure that any product that leaves our building functions as per designed and meets all the criteria of the customer. We’re committed to always providing the quality and value that our customers expect.”

The first and foremost benefit of Server Technology’s 100% Product Performance Testing is that customers can have peace of mind knowing that the products powering their mission-critical devices work as

designed and have less of a chance to fail, according to Scherr. Server Technology’s major goal is to help keep their customers’ physical infrastructure up and running so they can be as productive as possible.

Testing From Beginning To End

With 100% Product Performance Testing, it isn’t just a matter of testing a product after it’s completely built. In fact, these products are tested throughout the manufacturing



**Server Technology**  
Solutions for the Data Center Equipment Cabinet

**PDUs** || direct

process to make sure any possibly defects or other issues are caught early on to prevent a potential domino effect later down the line. And if a product fails at any step along the way, changes are made and the testing process at that level starts all over again. “It’s good for us to know early on if there’s a problem because we can fix it here at our manufacturing facility, which is so much better and quicker than trying to fix issues or problems in the field,” Scherr says.

The variety of tests performed on the products run the gamut from thermal, shock, and vibration testing to compliance with ATE (Automated Test Equipment) tests, as well. It all leads to the final tests, which are designed to test the product in real-world applications and make sure they are ready for the customer once and for all. All tests are performed in a state-of-the-art Power Lab.

“All products are tested at all stages, starting from when the product is in its infancy to when it has become finalized,” Scherr says. “Just before it goes out the door after the final modification, we test it once again. We don’t just test it by plugging it in and making sure the lights come on; we plug it in and we load every receptacle. We just want to make sure

that, functionally, the product fully works under the conditions it will see in the future.”

A Partnership Between Manufacturer & Customer

PDUs Direct sells a wide variety of Server Technology products, including basic, switched, and metered Rack PDUs, and all of them go through the 100% Product Performance Testing process. It’s a combination of well-built, easy-to-use products and a

degree of testing that isn’t often seen in the IT industry. Current customers notice this because, according to Scherr, they “really appreciate the due diligence being done prior to them getting the products.”

And Server Technology, along with PDUs Direct, sees its relationship with customers as a mutual partnership, which is why 100% Product Performance Testing was put into practice in the first place. These companies strive to provide the best products available with the highest amount of testing and lowest failure rates so that their customers can focus on running their businesses instead of fixing infrastructure issues.

“The quality, reliability, and performance of our products are the most important benefits—to our customers and to us,” Scherr says. “It’s what we’ve built the company on and what we stand for every day.”

SERVER TECHNOLOGY 100% PRODUCT PERFORMANCE TESTING

(800) 835-1515  
www.servertech.com

Tests products at every step, from inception to production to sale, to ensure the highest quality and lowest failure rates possible.

# Boost Your Security Arsenal

## Implement Tools & Policies To Stay Ahead Of The Curve & Mitigate Risks

**THESE DAYS**, it doesn't matter if you're an SME, a corporate banking institution, or a global Fortune 500 company—if you're doing business, you're a potential security target. As Dan Olds, founder of Gabriel Consulting Group, puts it, SMEs "typically think that they're not targets for hackers and thus a little safer than larger firms in sexier businesses, like banks," but that's not the case. Hackers today are using automated tools to scan the Web seeking unpatched systems and "anything that's ripe for exploitation," he says, using the exploit themselves or selling the info to others to steal your data, conduct a little cyber vandalism, or even change passwords related to your data center to "try to get the company to pay a ransom to get access to their systems again." Undoubtedly, your SME has various security measures in place. Chances are, however, that security arsenal could use boosting.

### ✓ Build A Better Foundation

An initial step in bolstering your security is making certain the basics are in place. This includes establishing a firm security policy that dictates how the company will handle security issues, as well as a policy that addresses identity and user authentication guidelines and what exactly is permissible where usage of applications, mobiles devices, and other hardware is concerned. According to Von Williams, director of information security, audit, and compliance at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)), as the workforce becomes more mobile but employees still require access to critical information systems, two-factor authentication for remote workers is of the utmost importance.

Strong firewall, antivirus, and next-gen malware-fighting solutions are other obvious basics to address. Williams says an SME's security budget is best spent on an industry-standard antivirus program. "A company not using an antivirus program is asking for trouble," he says. "It's not a case of if a company will experience an outbreak, but when that will happen." Olds is a proponent of SMEs using gateway appliances that combine firewall, spam filtering, anti-phishing, and other security tools into one easy-to-manage device. "Often, these devices are less expensive to acquire and require less management effort than using separate hardware and software packages to handle individual functions," he says.

### ✓ Stay Up-To-Date

Making certain basic security tools are in place is half the battle. The other half is ensuring that antivirus systems, hardware, and anything else tied to security are continually patched and updated, including "servers that could otherwise be exposed to vulnerabilities that could be exploited, leading to a security breach," Williams says. SMEs can save some money here, he says, by looking to open-source solutions aimed at helping keep a company's environment secure.

Olds says IT should take a "maniacal" approach toward patching software and firmware. "Unpatched and unmaintained systems are the biggest cause of security vulnerabilities," he says. "The biggest trouble areas are systems on the network

that haven't been maintained and patched to the appropriate levels. There are a wide range of devices that tend to fly under the radar, including servers, desktops/laptops, and networking components. If something is on the network and can see the outside world, it can end up being a vulnerable point that can be exploited."

One possibility for SMEs, Olds says, is using a network discovery tool that tracks down everything on the network and creates an inventory of items that need to be checked and that need the latest patches. "This is a good project for a new hire or intern—provided they're supervised," he says.

### ✓ Regulate Access To Data

SMEs can go a long way toward bolstering security by simply asking who has access to sensitive data. As Williams says, "Do the people who have access to sensitive data have a level of access appropriate for them to do their jobs?" To help answer the question, companies should establish role-based access controls to permit only certain users access to sensitive data, he says.


According to Jeff Falcon, senior security solutions architect at CDW ([www.cdw.com](http://www.cdw.com)), "One of the fundamental principles of security that is often overlooked or not considered important is the principle of least privilege—granting any user access to only the data and resources essential to their own work." Often, he says, companies are unable to answer such seemingly basic questions as "Who has access to my data? Who should have access to my data? Do you know what devices are on my network? Do you know the identities and where users can go once they're on my network?" To begin shoring up access to data, Falcon advises to "discover and classify where high-value data exists in your organization, determine who has and should have access to it, and apply the proper security controls to safeguard that data."

### ✓ Look Outside Yourself

For some SMEs, the best way to determine where a security arsenal needs the most attention and where the company can possibly save money doing so is to obtain an outside perspective, Falcon says. Commissioning a technical vulnerability assessment, for example, can "provide you with information about your network that you did not previously know about," he says. "This will lead you on the right path to effective spending for security investments, as well as show any 'quick wins' that will help you tackle the often daunting task of figuring out where to start." Further, getting the right advice from a trusted security advisor can help prioritize where speeding should be allocated first to mitigate risk.

Key to deciding whether an advisor is warranted is the enterprise first deciding if current IT staff can manage all projects, regulatory pressures, rapid fire drill responses, and other activities that deflect from daily activities without putting the company at risk. If not, Falcon says, "determine what can be leveraged as a service and what should be maintained in-house." Logicalis' Williams adds that one

possibility is outsourcing firewall monitoring to a qualified security monitoring company that can "proactively monitor

your perimeter for suspicious activity and make adjustments to the firewall if any are discovered." 

## Best Personnel Tip:

### ✓ Run A Background Check Before You Hire

"Perform background checks on all prospective employees," advises Von Williams, director of information security, audit, and compliance at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)). "People with questionable background checks may represent a security risk," he says. "If a potential employee has been convicted of embezzlement, for example, then you probably wouldn't want that person working in accounts payable."

## Best Monitoring Tip:

### ✓ Set Permissions & Rights

According to Jeff Falcon, senior security solutions architect at CDW ([www.cdw.com](http://www.cdw.com)), one major enterprise-security trouble spot is the proliferation of endpoints and mobile devices that are poorly managed, patched, and secured. Additionally, "overexposed or excessive permissions and rights management within critical infrastructure applications like Active Directory, SharePoint, and Exchange can cause problems for enterprise security," he says. To mitigate associated risks, use solutions that track the number of devices and endpoints by type, identity, and applications allowed in the corporate environment, he says. Further, use identity management and permissions management solutions to ensure that acceptable use of devices, applications, and permissions are monitored and enforced.

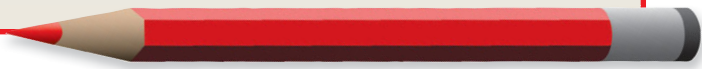
## BONUS TIPS:

### ✓ Go automatic.

Implementing strong antivirus protection is "absolutely critical" to protecting servers and endpoints against malicious code and viruses, say Von Williams, director of information security, audit, and compliance at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)). To that end, install antivirus software that automatically downloads and deploys signature files all the way to the endpoints, he says. Additionally, he suggests installing an application that checks and downloads available security patches and installs applicable patches on servers.

### ✓ Get physical.




Shoring up physical security is something SMEs can't overlook. Here, Williams says to determine who has physical access to areas where critical business data resides and decide if they are and should be authorized. To limit access to sensitive enterprise areas, he says, install card-swipe devices.








PRODUCT SPOTLIGHT

# Data Center Cleaning Services

Company	Controlled Contamination Services	Data Clean	Data-Tec Systems
Description	<div><p>Specializing in working with data centers of all sizes, Controlled Contamination Services can clean the most sensitive components to rid your data center of fine particles, residue buildup, and other contaminants. Professionals will clean server rooms with the latest micro-cleaning techniques. Controlled Contamination Services performs background checks on its own employees to ensure that your facilities and equipment are in the right hands.</p><ul style="list-style-type: none"><li>• Services for UPS rooms, computer rooms, and network control centers</li><li>• Proper cleaning materials reduce electrostatic charges and protect sensitive environments</li><li>• Cleaning services also disinfect raised floor areas and command centers</li><li>• Removes dust that air filters can't catch</li></ul><p><b>Best For:</b> Data centers with sensitive equipment that needs cleaning.</p><p><b>Contact:</b> (888) 263-9886   <a href="http://www.cleanroomcleaning.com">www.cleanroomcleaning.com</a></p></div> <div></div>	<div><p>For more than 30 years, Data Clean has been trusted by thousands of controlled environments worldwide. Data Clean specializes in maintenance and the identification, cleaning, and remediation of contamination that costs you where it counts: reduced productivity, customer satisfaction, downtime, and lost revenue.</p><ul style="list-style-type: none"><li>• Specializes in controlled environments: data centers, computer rooms, and cleanrooms</li><li>• Full-service branches located in the United States, Canada, Mexico, Saudi Arabia, and Asia</li><li>• Flexible scheduling 24/7</li><li>• Dedicated workforce of highly trained and uniformed technicians</li><li>• 100% satisfaction guarantee</li></ul><p><b>Best For:</b> Data centers that demand detail-oriented cleaning, regular maintenance, and post-construction cleaning.</p><p><b>Contact:</b> (800) 328-2256   <a href="http://www.dataclean.com">www.dataclean.com</a></p></div> <div></div>	<div><p>Data-Tec Systems specializes in servicing a variety of IT-related facilities, including computer rooms, server rooms, print facilities, MDF rooms, item processing rooms, and even general office areas on raised flooring. Data-Tec Systems has been providing maintenance services since 1991 and can care for equipment, tile, subfloor, and access floor cleaning as a complete package. Data-Tec Systems employs trained technicians who know how to manage delicate IT equipment while cleaning data center rooms.</p><ul style="list-style-type: none"><li>• Periodic computer room exterior shell cleaning</li><li>• Access floor tile surface cleaning with pretreated, environmentally safe cleaners</li><li>• Subfloor tack cloth wipe-down</li><li>• Access floor installation and replacement</li></ul><p><b>Best For:</b> Data centers that utilize multiple rooms.</p><p><b>Contact:</b> (888) 595-6422   <a href="http://www.data-tecsystems.com">www.data-tecsystems.com</a></p></div> <div></div>

Company	Sealco	SPEC-CLEAN	Specialty Cleaning Services
Description	<div><p>Sealco specializes in cleaning and maintaining computer rooms and their support equipment. Whether it's post-construction cleaning or a preventive maintenance program, Sealco's services will allow your data center to meet today's environmental needs at an affordable price. Acknowledging the customer's concern for safety and security, all Sealco technicians receive extensive background checks and training in data center operations.</p><ul style="list-style-type: none"><li>• 28 years in the data center cleaning industry</li><li>• Permanent full-time employees are background-checked and drug-tested both before and during employment</li><li>• AirSeal bypass airflow programs designed to decrease energy consumption and increase infrastructure capacity</li><li>• Full line of computer room products</li><li>• Zinc whisker remediation</li><li>• Nationwide services</li></ul><p><b>Best For:</b> Any IT environment that needs cleaning services performed on any scale.</p><p><b>Contact:</b> (800) 283-5567   <a href="http://sealco.net">sealco.net</a></p></div> <div></div>	<div><p>SPEC-CLEAN provides continuous maintenance programs and post-construction specialized cleaning that's based on the needs of your data center or critical environment with flexible scheduling and full-time trained technicians. SPEC-CLEAN services include exterior and interior hardware cleaning, HEPA vacuuming of the subfloor, and reconditioning the surface of raised floor and non-raised floor environments. SPEC-CLEAN also provides environmental follow-up site reports, emergency cleaning, and zinc whisker remediation.</p><ul style="list-style-type: none"><li>• Complete cleaning of exterior and interior of server cabinets</li><li>• HEPA vacuuming takes care of dust on exterior cabinets, monitors, and flat surfaces</li><li>• Client walk-throughs to ensure that you're 100% satisfied</li><li>• Cleaning solutions used are approved for data centers and mission-critical environments</li></ul><p><b>Best For:</b> Data center managers who like reliable, detail-oriented deep cleaning.</p><p><b>Contact:</b> (203) 885-0174   <a href="http://www.specclean.com">www.specclean.com</a></p></div> <div></div>	<div><p>Specialty Cleaning Services can effectively clean data centers, while also taking care of cleanroom, industrial lighting, acoustical ceiling tile, and post-construction cleaning. Offering five basic services, Specialty Cleaning Services uses HEPA-filtered vacuums, lint-free dust cloths, and sterile cleaning agents to complete commercial cleaning tasks such as exterior hardware cleaning, top-of-floor cleaning, underfloor plenum cleaning, above-ceiling cleaning, air sampling, and environmental reports.</p><ul style="list-style-type: none"><li>• Heavy-duty cleaning for post-construction facilities</li><li>• Cleanroom sanitation for large facilities</li><li>• Water-based, nontoxic cleaning materials for acoustical ceiling tile</li><li>• Services are available for scheduled intervals throughout the year</li></ul><p><b>Best For:</b> Data centers that want detailed, hands-on professional cleaning services.</p><p><b>Contact:</b> (303) 750-2532 <a href="http://www.specialtycleaningservices.net">www.specialtycleaningservices.net</a></p></div> <div></div>

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Plenum Cleaning Services

Plenum Cleaning Services is an experienced data center cleaning company specializing in cleaning and decontaminating every facet of a data center, telecom center, MDF room, IDF room, Network Operations Center, and power and battery rooms in accordance with ISO 14644 standards. Available cleaning services include plenum, access floor tiles (all sides), access floor frame, pipes, cables, vents, vinyl composition tile floor anti-static wax maintenance (strip, scrub, wax, and burnish), hardware, equipment, cages, fences, overhead cable trays, lights, furniture, and wall fixtures. PCS also offers customized cleaning programs to meet business or budget needs.



- Reduces potential system malfunction and costly downtime as a result of dust and debris build-up
- Improves the density and quality of the air by removing 99.999% of dust, pollen, mold, bacteria, hair, and any airborne particles with a size of 0.12 micron or larger
- Removes hazardous debris such as nuts, bolts, plastic grommets, paper, plastic, cardboard, tape, and lint
- Improves aesthetics
- Provides unsurpassed service and offers a 100% customer satisfaction guarantee
- Prolongs the life of the high-pressure access floor, vinyl composition tile floor, and equipment
- References available with written estimate

**Best For:** Preventing system malfunction and costly downtime related to thermal shutdown as a result of components overheating due to dust and debris build-up.

**Contact:** (480) 285-1603 | [www.plenumcleaning.com](http://www.plenumcleaning.com)

Premier Solutions Co.

Since 1997, Premier Solutions Co. has provided DCM (Data Center Maintenance) to the industry, gaining a 97% Excellent rating along the way and generating a 99% client retention rate over the past five years. Premier Solutions Co.'s comprehensive approach to DCM eliminates contaminants within your data center environment, protecting your valuable IT assets from the intrusion of particulates such as dust and dirt. Boasting an extensive crew training program, Premier Solutions Co. conforms to ASHRAE TC9 specifications, has adhered to a 100% uptime policy, and has cleaned more than 10 million square feet of data center flooring. We exceed your expectations!



- Cleans raised floors, subfloors, hardware, and servers, including high-density servers
- IDF/MDF rooms
- Ceiling tile cleaning
- Green Seal-approved products
- Onsite cooling/power assessment

**Best For:** Enterprise-level data center operations, co-location companies, and IT operations where security is maintained at the highest levels.

**Contact:** (714) 557-5800 | [www.premiersolutionsco.com](http://www.premiersolutionsco.com)

ProSource  
Data Center Cleaning

ProSource offers mission-critical data center cleaning services that consist of multitier, time-sequenced preventive maintenance plans for cleaning the data center's subfloor, raised floor, equipment surfaces, and ceiling areas. ProSource also offers subfloor encapsulation that includes an epoxy coating application to prevent subfloor plenum dust. Additionally, ProSource offers many products to help prevent contamination and static build-up in the data center, such as contamination control sticky mats, bypass airflow grommets and blanking panels, antistatic cleaning chemicals, and raised floor supplies.



- Standard service options include annual, semi-annual, quarterly, and monthly preventive maintenance service plans
- Customized plans are available to meet the specific needs of individual facilities
- Raised floor surface cleaning features Pro-Tek and Microfiber Flat Mopping System

**Best For:** Data centers that want to prevent the accumulation of dust and contamination that can cause unwanted downtime.

**Contact:** (888) 247-0986 | [www.team-prosource.com](http://www.team-prosource.com)

Square Care

Square Care brings more than 22 years of experience, providing data center cleaning services by a highly trained, professional staff. Square Care technicians are specially trained for "mission critical" environments. By using CAD drawings of your facility, we are able to develop a precise and individualized cleaning and maintenance plan, including raised and non-raised floor areas. Carpeting outside the server area is often the biggest contributor to particulate contamination, so we clean that, as well. Cleaning services are designed around your enterprise's needs, with minimal interruption and maximum elimination of dust and debris.



- Cleaning above and below access flooring, server racks, and CRAC and UPS units
- Employing a safe, odor-free, VOC-free, and static-dissipative cleaning process
- Using triple HEPA/ULPA filtration systems to eliminate reintroduction of particulates
- Providing status reports with pictures following every visit
- All technicians are continuously trained and IICRC certified

**Best For:** Data center and facility managers in need of qualified cleaning services for their mission-critical areas.

**Contact:** (800) 200-9680 | [www.squarecare.com](http://www.squarecare.com)

Sterile Environment Technologies

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BUYING TIPS:

# Data Center Cleaning Services



**CLEANLINESS IS IMPORTANT**, and never more so than when talking about your company’s data center. As Rich Hill, president of Data Clean Corp. ([www.dataclean.com](http://www.dataclean.com)), points out, “Application of ISO 14644-1, Class 8, and management of coarse and fine particles suggests that a data center should be as clean as possible.” This means that any contracted cleaning service must be equipped to “remove visible contamination for aesthetic value and remove coarse and fine contamination, which, if disturbed, could reasonably contribute to excessive airborne contamination,” Hill says.

**Experience required.** Not all cleaning is created equal. Although janitorial services may do an excellent job of keeping offices and workspaces free of standard-fare workplace debris, they are usually not equipped to clean data centers, an undertaking that requires specialized training and years of experience. “A professional data center cleaning company will be one that has many years of experience cleaning data centers, utilizes industry standards for cleaning, and can provide assistance with customized maintenance plans for your particular site,” says Kevin Vickery, president of ProSource Mission Critical Services ([www.team-prosource.com](http://www.team-prosource.com)).

Typical services should include sub-floor plenum cleaning, raised floor cleaning, equipment surface cleaning, ceiling cleaning, and subfloor concrete encapsulation. A professional data center cleaning company will be dedicated to providing these kinds of services, whereas even the best janitorial service will not be able to provide them.

**Pricing.** Hector Gallardo, senior account manager at Plenum Cleaning Services ([www.plenumcleaning.com](http://www.plenumcleaning.com)), notes that whereas you can expect to pay from 50 cents to \$1.20 per square foot for professional data center cleaning, few commercial janitorial services could provide those services at any price. Gallardo also cautions against taking the inexpensive way out: “The lowest bid is not necessarily providing the level of service you want and need,” he notes.

**Due diligence.** Gallardo further recommends asking whether the cleaning company’s workers are full-time employees or contracted temps, requesting a demonstration, and asking for a customer satisfaction guarantee. Keep in mind the following:

Get a detailed scope of work, including insurance, equipment, and materials; ask if employees are background-checked and drug-screened; check inside the plenum and on the underside of the access floor tiles for cleanliness; ensure that all tiles are lifted and cleaned on all sides, especially concrete-filled waffle tiles, which often have concrete residue from the manufacturer and other contaminants; and do not allow anyone to use liquids (or machines that require liquid) to clean your data center. Last but not least, says

Gallardo, be sure to periodically check the work in progress.

**Keep it clean.** Once your data center is cleaned to your satisfaction, you should do your part to ensure that it stays as clean as possible, Hill says: Don’t allow food or drink in the data center, place contamination control mats at all entrances, and don’t allow dirty carts or materials inside the data center. If drilling inside is necessary, appropriate safeguards must be employed to limit migration of contaminants. **P**

## BUYERS’ CHECKLIST

- ✓ Get a detailed scope of work.
- ✓ Require that employees be background-checked and drug-screened.
- ✓ Check the work in progress periodically.
- ✓ Do not allow the use of liquids of any kind to clean your data center.

## KEY TERMS

**Airborne contamination.**  
Gaseous and particulate contamination that can lead to equipment failure; often gauged by particulate sampling.

**ISO 14644-1.**  
An international standard for cleanrooms and controlled environments.

**Particulate migration.**  
The movement of contaminants from one sector or piece of equipment to another, often as a result of the contaminant changing form as it’s crushed and spread.

**Plenum.**  
An enclosed space (often beneath floors or in ceilings) used for HVAC, cabling, etc.

FEATURED PRODUCT

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WITHIN THE 224,000 SQUARE FEET of facility in which FORTRUST operates its data center and colocation services, you can find many examples of the company’s commitment to providing customers with reliable, constant access to their data. Beyond the world-class power, cooling, connectivity, and security infrastructure, you’ll find a staff of specialists working around the clock to oversee these systems and data, something FORTRUST provides through industry-leading SLAs. Through its Managed Services offerings, FORTRUST extends its infrastructure and expertise to the management and monitoring of customer data, servers, applications, and hybrid colocation/cloud IaaS.

### Colocation That’s Different By Design

Founded in 2000, FORTRUST provides colocation services to a range of companies at its Denver location, a geographical setting that protects it against major natural disasters. FORTRUST progressively designed the facility with a modular “plug and play” approach that makes it possible to expand the space without interrupting ongoing operations. Offerings include individual 7-foot cabinets with customer-configured combination locks, private cages starting at 100 square feet. In addition to high-sensitivity



smoke detection, colocation rooms include two- and four-hour rated fire walls. FORTRUST has multiple high-availability UPSs N+1 (750kVA, and 1,000kVA) onsite, and 48-volt DC power, as well as 2N (A and B side) distribution to critical loads. It can scale to 24 megawatts of utility power and more than a dozen generators on hand. Cooling includes a closed-loop chilled water system based on 440-ton air-cooled chillers and pumps. Colocation units feature 30-ton CAHU units in an N+1 configuration with humidity and temperature controls. Additionally, the units are

on raised flooring and feature Seismic Zone 4-rated stands and sub-floor leak detection. FORTRUST’s in-facility NOC (Network Operations Center) houses a staff of specialists working 24/7/365 to oversee the operation and security of customers’ IT equipment and data. FORTRUST also provides 24/7/365 onsite security staff that monitor numerous physical layers of two factor authentication and security, including dual mantraps, key cards, biometric scanners, motion sensor-activated cameras, on- and offsite alarm monitoring and response, and digital recording. FORTRUST is a carrier-neutral data center facility. As a result, customers have direct access to connectivity circuits across diverse and multiple carriers for dedicated Internet access for their cabinet or rack to one or more fiber network connections. FORTRUST’s connectivity solutions provide onsite access to major telecommunications carriers with fiber presence in the facility.


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FORTRUST’s Managed Services program provides individual fully managed options covering IaaS, applications, data, and security. Managed Cloud Infrastructure Services deliver an IaaS platform. FORTRUST enlists a 24/7 “Sense of Urgency” approach to customer service that ensures customers will reach a live support person via email or phone any time of day. The company’s SLAs ensure 100% power delivery and availability, 100% HVAC and environmental control and availability, and 100% managed Internet access service. “FORTRUST’S data center business model rests on our four underlying principles: Superior Facility Design, Extraordinary People, Proven Processes and Flawless Execution. FORTRUST is truly different by design,” says Kara Miller, Director of Marketing at FORTRUST.

**FORTRUST PREMIUM DATA CENTER SERVICES**

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FORTRUST aims to help customers gain economies of scale through the continual investments it makes in data center design, infrastructure, processes, and staff.



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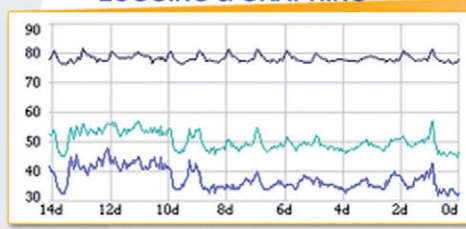
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<b>Layer 4 CPS:</b>	300K
<b>Ethernet Interface:</b>	Gigabit Copper 8 Gigabit Fiber SFP 4
<b>Power Supply:</b>	Dual 400 W
<b>Dimensions:</b>	1.75 x 17 x 21.8 inches (HxWxD)
<b>Rack Units:</b>	1U
<b>Management Interface:</b>	Yes
<b>Console Port:</b>	Yes
<b>Solid State Drive:</b>	Yes

(4) available; asking \$12,000 each

**Contact: Edward Jondle**  
**Phone: (402) 458-4401**

# Minimize Cloud Computing Risks

## Overcome Vulnerabilities & Build A Secure Cloud Environment

**THE IMPORTANCE OF SECURITY** in the IT industry can't be overstated. Every day, new threats are introduced that are designed to target technology companies to steal information. It isn't just onsite resources that need to be protected, either; cloud environments must also be considered in every company's overall security approach because they are targets, as well.

"Cloud computing is subject to the same threats as traditional dedicated hosting and in-house computing," says Jonathan Coombes, chief security officer at Rackspace ([www.rackspace.com](http://www.rackspace.com)). "Hackers, malware, malicious insiders, and weak or unsecured passwords pose security threats to all types of computing. Customers need to perform the same due diligence when selecting a cloud provider as they would when choosing a traditional hosting partner or a security regime for in-house IT."

Companies must remember that even though cloud environments have been around for a few years, the technology is still relatively new and has certain vulnerabilities that have to be addressed. Here we'll show you how to prepare your company to use cloud computing safely and how to prevent potential attacks with some forward-thinking strategies.

**Learn The Ins & Outs Of The Cloud Beforehand**

The first thing to do before implementing any new technology is to research it and fully understand it. Whether you are working with an external cloud provider or setting up your own cloud environment, you have to gather information and take advantage of established best practices to ensure that your overall deployment is a success. Luckily, if you do decide to implement your own private cloud environment, most vendors will be able to help you through the process so you'll be better prepared to use the cloud effectively.

"A private cloud is a complicated system with many moving parts, and deploying one securely requires a deep understanding of the underlying technology," Coombes says. "Many cloud providers and systems integrators have begun offering cloud consulting services to assist customers in deploying their own clouds. Customers that do not have significant cloud expertise in-house should consider such an offering when first venturing into private clouds."

**Security & Performance Before Savings**

Aside from understanding the inner workings of cloud computing, companies

must also make sure that they have the performance they need and important security measures in place before finding areas where they can cut costs. "IT pros must remember to consider the impact on performance and user experience as well as the bottom line in every cloud decision they make," says Steve Pelletier, cloud solution architect at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)).

It's important to balance the overall needs of the company with potential cost-cutting

measures. For instance, Pelletier says that some companies try to move their employees' desktops to the cloud in order to save money, but in essence, "they are moving the end-user experience farther away from the user." This could affect productivity by negating the money you save moving desktops to the cloud with the potential time lost by users not being able to access the resources they need.

### Key Points

- Understand public and private cloud computing, including the inherent risks and vulnerabilities that go along with them, and don't sacrifice performance and safety to save money in the short-term.
- Only move suitable applications and data to the cloud. In some cases, it isn't worth it to move certain assets, such as customer records or financial information, away from your internal storage and security solutions.
- Always look forward when planning out your cloud computing strategy. Prepare yourself now for your company's needs in the future and be ready to overcome security threats that may arise.



### Get Started

The best place way to get started with cloud computing and avoid potential security threats is to research cloud providers and speak to them about their security standards. "Customers need to have a clear understanding of the aspects of security that the provider is responsible for as well as a certain level of confidence that these responsibilities are indeed being met," says Jonathan Coombes, chief security officer at Rackspace ([www.rackspace.com](http://www.rackspace.com)). If you can recognize and understand the security measures a provider is using, it can help you make a better decision on whether or not those measures are sufficient for your company.

### Action Plan

- Compare potential cloud providers and build a relationship with your chosen provider to ensure it is reputable and has a track record of solid security standards.
- Always keep in mind that cloud computing environments are still housed on physical servers. Make sure your cloud provider offers sufficient security to protect your data and prevent downtime.
- Find out if your cloud provider's solutions meet the regulatory requirements for your company or industry. Many providers have compliance measures in place, but it helps to know what they specifically cover.
- Always be on the lookout for new security technologies related to cloud computing because it's a constantly evolving industry.

### Move The Right Applications & Data To The Cloud

Possibly the most common-sense idea, which can get lost in the shuffle of cloud setup or deployment, is knowing which applications you should move to the cloud and what types of data are safe to move to the cloud. "Companies need to know their own tolerance for risk and assess whether the risks posed by cloud computing can be sufficiently mitigated to bring them within that tolerance," Coombes says. "Often, this is less a matter of cloud computing technology itself and more a question of the specific application being deployed in the cloud."

To help prevent potential data loss or performance issues with cloud-based applications, Coombes suggests that companies invest in a hybrid cloud model. With this approach, companies can store sensitive data and applications in the private cloud and store less crucial information and apps in the public cloud. This is a great way to take advantage of the benefits the cloud offers without unnecessarily risking the security of important assets.


### Build Your Cloud Environment For The Long-Term

With cloud computing, it's important to always be forward-thinking and know where you want your cloud environments to be years down the road. Pelletier says that some companies tend to look at the short-term benefits of the cloud instead of developing a longer-term cloud strategy. And according to Pelletier, "this limits their future capabilities and can lead to unintentional design limitations that could easily have been avoided with longer-term planning."

If you can avoid viewing cloud computing as a temporary fix or short-term solution, then you can build a cloud infrastructure that will grow and evolve along with the industry. And you'll be in a position to take advantage of new technologies and features related to cloud computing with less risk and fewer headaches.

### Top Tips

- ✓ Know the different types of cloud offerings, including infrastructure as a service, platform as a service, and software as a service. Each has its own unique benefits that may or may not be a fit for your company in the long run.
- ✓ To protect your company from data loss, don't view the cloud storage or hosting environment you use every day as a disaster recovery solution. It's still important to have a separate backup system in place, so if there is a disaster at an offsite facility, your company won't be at a standstill.
- ✓ Know where the physical servers that host your cloud are located "in order to know whether you are meeting your legal requirements for where your data can reside," says Mike Martin, director of cloud computing at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)).



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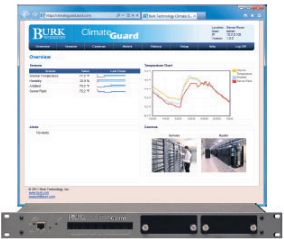
# Environmental Monitoring

Product	AVTECH Room Alert 11ER	AVTECH Room Alert 32E & 32W	Black Box AlertWerks ServSensor Junior (EME102A)
			
Description	<p>The Room Alert 11ER from AVTECH is an environmental monitoring device designed to help SMEs keep tabs on temperature, humidity, and other environmental conditions in computer rooms and data centers. The device keeps track of conditions via internal and external sensors and sends alerts to admins when predetermined thresholds are met or exceeded. The Room Alert 11ER's sensors can gather environmental information from multiple locations within an 1,800-foot radius and can be controlled and adjusted via an easy-to-use browser-based interface.</p> <ul style="list-style-type: none"><li>• Plug-and-play setup for immediate use, with or without a host PC</li><li>• Alerts can be sent by email, email-to-SMS, SMTP, Web page update, and more</li><li>• Real-time sensor status, data logging, and graphing</li><li>• Uses just 1U of rack space in a 19-inch form factor</li><li>• Includes one built-in digital temperature sensor, two digital sensor ports, and eight channels for switch sensors or dry contacts</li></ul> <p><b>Best For:</b> Enterprises that need to protect mission-critical servers from changes in temperature and humidity.</p> <p><b>Price:</b> Starts at \$515</p> <p><b>Contact:</b> (888) 220-6700   <a href="http://www.AVTECH.com">www.AVTECH.com</a></p>	<p>AVTECH's Room Alert 32E and 32W are advanced hardware appliances designed for IT and facilities environment monitoring, alerting, automatic corrective action, and wireless sensor monitoring. They can monitor computer room temperature, humidity, power, room entry, and more in multiple locations, and they run using Power over Ethernet. Both models come with a full license of the AVTECH Device ManageR software, which automatically discovers devices, and a year-long subscription to AVTECH's Maintenance, Support &amp; Update Service, with firmware and software updates, technical support, and full hardware replacement on the ID box free of charge.</p> <ul style="list-style-type: none"><li>• The 32W can accommodate about 100 sensors</li><li>• Password-protected built-in Web server</li><li>• Relay outputs let you remotely turn devices on or off, and 0-5V analog sensor inputs let you log information from other manufacturers' sensors</li><li>• Monitor units with built-in Web server, bundled Device ManageR, or any SNMP application</li></ul> <p><b>Best For:</b> Enterprise-level monitoring in any location where running cables may be difficult or impossible.</p> <p><b>Price:</b> \$995 (32E) and \$1,195 (32W)</p> <p><b>Contact:</b> (888) 220-6700   <a href="http://www.AVTECH.com">www.AVTECH.com</a></p>	<p>The AlertWerks ServSensor Junior from Black Box is designed to provide detailed insights into the environmental conditions of smaller installations. This unit can be used as the central hub of the AlertWerks environmental monitoring system to track temperature, humidity, liquids, and open doors. Other applications include remote monitoring and management of HVAC systems, security equipment, UPSes, generators, and industrial equipment.</p> <ul style="list-style-type: none"><li>• Two ports accept a range of sensors, including temperature, humidity, water, and airflow</li><li>• Java-based Web user interface provides hub access over any IP network</li><li>• Sends alerts through SNMP or email</li></ul> <p><b>Best For:</b> Organizations with limited environmental monitoring requirements.</p> <p><b>Price:</b> \$250</p> <p><b>Contact:</b> (888) 433-5049 <a href="http://www.blackbox.com/go/alertwerks">www.blackbox.com/go/alertwerks</a></p>

Product	RLE Technologies FDS-Wi Wireless Gateway	Sensaphone Web600	Server Technology Environmental Monitoring Control Unit-1-1B
			
Description	<p>The FDS-Wi Wireless Gateway from RLE Technologies is a wireless acquisition device that helps monitor remote facilities. The FDS-Wi receives 418MHz and 900MHz signals from wireless devices and relays them to Facilities Monitoring Systems as SNMP, Modbus TCP/IP, Modbus RTU, and BACnet/IP signals. The Wireless Gateway's 418MHz antenna receives signals from transmitting sensors within 100 feet (30.5m) of open air space. Typical sensors transmitting 418MHz signals include temperature, humidity, and motion sensors; power transmitters; and dry contact, analog (0-20mA), 0-5VDC, and 0-10VDC signals. The 900MHz antenna receives signals through up to a quarter-mile (402m) of open air space from sensors and point repeaters, which can be used to increase the distance between the Gateway and the wireless sensors.</p> <ul style="list-style-type: none"><li>• Analog: 0-20mA, 0-5v, 0-10v</li><li>• Current: 15A CT, 40A CT</li><li>• Digital: Dry Contact</li><li>• Leak detection</li><li>• Motion</li><li>• Temperature</li><li>• Temperature/humidity</li><li>• Thermistor</li><li>• Point repeater</li></ul> <p><b>Best For:</b> Any company looking to use wireless connectivity for facility monitoring.</p> <p><b>Contact:</b> (800) 518-1519   <a href="http://www.rletech.com">www.rletech.com</a></p>	<p>The Sensaphone Web600 provides Web-based monitoring at an affordable price. The Web600 lets you track critical temperatures and other conditions in computer rooms, data centers, and other areas, and it immediately alerts you via email, text, or SNMP traps when values are out of the normal range. The Web600 can read values from humidity, air quality, water leak detection, and other sensors.</p> <ul style="list-style-type: none"><li>• Completely standalone and easy to use</li><li>• Can connect up to six sensors to monitor a variety of equipment and conditions</li><li>• Built-in Web server provides quick and easy information about monitored conditions</li><li>• Optional battery backup</li></ul> <p><b>Best For:</b> Organizations in need of a flexible standalone unit for monitoring temperature and other conditions.</p> <p><b>Contact:</b> (877) 373-2700   <a href="http://www.sensaphone.com">www.sensaphone.com</a></p>	<p>Server Technology's EMCU (Environmental Monitoring Control Unit)-1-1B is an IP-based product that monitors temperature and humidity, features water and fluid sensors, supports four dry contact door sensors, and accommodates additional power-fed analog input sensors. A Web interface provides at-a-glance reports of temperature, humidity, water detection, and cabinet door status.</p> <ul style="list-style-type: none"><li>• Support for HTML and command-line interfaces</li><li>• Supports two temperature and two humidity measurements out of the box</li><li>• No additional software necessary</li><li>• Mounting tabs included for 0U mounting</li></ul> <p><b>Best For:</b> Data centers, colocation sites, Web hosting facilities, telecom switching sites, POP sites, server closets, and any unmanned area that needs to be monitored.</p> <p><b>Contact:</b> (800) 835-1515   <a href="http://www.servertech.com">www.servertech.com</a></p>

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

## Burk Technology Climate Guard



Environmental problems in the server room can cause costly downtime, damage expensive equipment, and even lead to loss of mission-critical data. Climate Guard monitors temperature, humidity, flood/leak, and many other conditions that can cause serious IT disasters. Email, SMS and SNMP notifications ensure that responsible personnel can respond quickly and effectively.

- Modular design lets you add capacity and features
- Built-in temperature, light, and sound sensors
- Spot trends and prevent problems from developing with onboard charting

**Best For:** Server rooms and data centers of all sizes that require comprehensive monitoring of environmental conditions to detect a problem as early as possible.

**Price:** Starts at \$495

**Contact:** (978) 486-0086 | [www.burk.com](http://www.burk.com)

## ITWatchDogs MicroGoose Environmental Monitor



The MicroGoose environmental monitor from ITWatchDogs is designed to provide Web-based remote surveillance of such conditions as temperature, relative humidity, and dew point. Users can easily view and log environmental data over the Web or the intranet, and the MicroGoose requires no additional software—you simply access the GUI securely via a Web browser. The MicroGoose's built-in Power over Ethernet eliminates the need for electrical wiring by combining power and data through a single connection.

- Sends SNMP, email, and SMS alerts when user-defined thresholds are met
- View charts and graphs online via the Web GUI
- Compatible with up to four IP cameras (not included) for monitoring the area remotely
- No software required
- Compatible with WatchDog Console Aggregator

**Best For:** Monitoring environmental conditions in critical applications such as server rooms, server racks in colocation facilities, clinics, and warehouses.

**Price:** \$199

**Contact:** (512) 257-1462 | [www.itwatchdogs.com](http://www.itwatchdogs.com)

## Rackmount Solutions' Remote Physical Monitor



The Uptime Devices Remote Physical Monitor unit from Rackmount Solutions supports remote monitoring that lets users protect equipment and sensitive electronics. The RPM uses Remote Intelligent Multi Sensors technology, which lets it collect environmental and security data to send alerts via email, SMS, or SNMP when the monitored equipment exceeds the user-defined limits. Each unit has a battery-backed clock for accurate recording, and the device also supports up to 250 different RIMS, located up to 1,000 feet away.

- Real-time monitoring of temperature, humidity, airflow, and dry contacts
- Dry-contact sensors for use with 10-port dry contacts and HEAT RIMS
- Monitor and control third-party power strips
- Two-port power RIMS monitor, track, and manage IT equipment current load and voltage

**Best For:** Data centers and standalone applications that require temperature, humidity, and remote power management.

**Price:** Starts at \$799

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

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The Upsite Temperature Strip, from the LOK Family of Solutions™, features an acrylic self-adhesive backing that lets users install it on any IT equipment or cabinet door where the potential for hot spots and other heat-related issues exists. It accurately provides a visual reading of intake air temperatures based on standards established by the Uptime Institute, ASHRAE, and equipment manufacturers for acceptable operating ranges.

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## Server Nurse's Sensor Hub (SH-2)



The Uptime Devices' Sensor Hub (SH-2) from ServerNurse.com is an easy-to-use, Web-based environmental, power, and security monitoring network device. Sensor Hub (SH-2) notifies personnel when conditions exceed user-defined limits. With Uptime Devices' wide range of environmental sensors, Sensor Hub can monitor temperature, humidity, liquid, dry contact, security, voltage, and other environmental states. Among the benefits are preemptive notifications and alarms, component life maximization, and optimized cooling efficiency that brings down energy costs.

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- Cloud-based data storage means logging is continuous and can be accessed in a secure cloud-based data log
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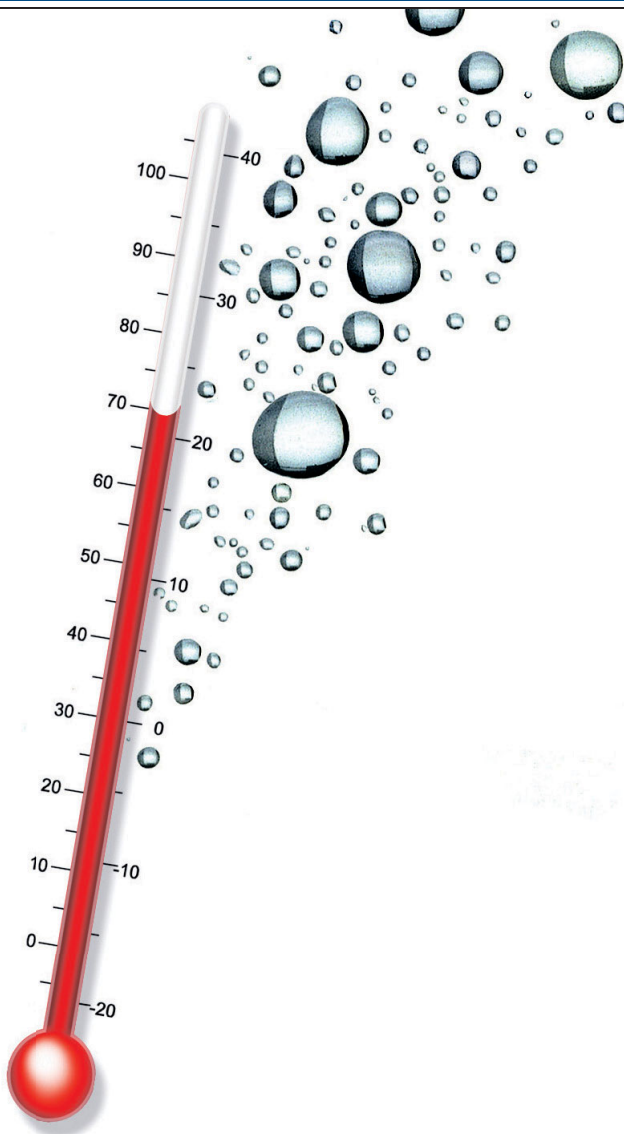
**Best For:** Remote sites, cold storage, freezers, refrigeration units, and power outage monitoring.

**Price:** Starts at \$485, plus monthly monitoring plan starting at \$15 per month

**Contact:** (512) 328-1800 | [www.uptimedevices.com](http://www.uptimedevices.com)

BUYING TIPS:

# Environmental Monitoring Equipment



**ENVIRONMENTAL MONITORING** offerings are not things an enterprise invests in on a whim. Every organization has unique infrastructure limitations, climate issues, and monitoring needs, so no one-size-fits-all solution exists. Decision makers must be well versed in the latest environmental monitoring tech available, as well as in areas such as sensor applications, notification capabilities, and management automation, to make appropriate choices.

**Connectivity options.** Until recently, any active monitoring product needed to be wired to be networked. But Wi-Fi and cellular technologies have taken up the slack, enabling customers to implement a monitoring system in remote and infrastructure-constrained locations. “Cabling and wiring inhibit where you can put sensors,” says Chris Gaskins, VP of product development at RF Code ([www.rfcode.com](http://www.rfcode.com)). “For data centers especially, you want to be able to micro-instrument your facility to capture all the environmental data you can.”

**Monitor a variety of conditions.** For critical systems that handle the most important data, it is vital to monitor a variety of conditions, even those unlikely to affect performance, to ensure against loss and downtime. Key environmental sensor types that can deliver proactive feedback include temperature, humidity, airflow, water leakage, and dry contacts. Power and voltage sensors are also important, even if the power sources have a reliable track record. Security-based sensors can also be incorporated into an environmental monitoring system.

“Heat, humidity, and airflow are just the beginning when it comes to monitoring,” says Jean-Paul Daemen, CEO of Uptime Devices ([www.uptimedevices.com](http://www.uptimedevices.com)). “The more elements you monitor, the more likely you are to be ready for the unforeseeable.”

**Notification options.** A state-of-the-art environmental monitoring system is nothing without notifications. After all, says Bob Douglass, vice president of sales and marketing at Sensaphone ([www.sensaphone.com](http://www.sensaphone.com)), “The primary motivation for adding an environmental monitoring system is to know when you have a problem as soon as possible.” Common notification options include email, LEDs, audible alarms, beacons, sirens, Web alerts, SNMP, automated phone calls, and SMS.

**Ensure ample coverage.** Consider the room size and amount of equipment to be monitored and plan the number and placement of sensors accordingly. “If your deployment is small, a few points of measurement may suffice, but if you have a large operation, you may require environmental measurements every few feet,” says Brandon Siri, senior marketing representative at Server Technology ([www.servertech.com](http://www.servertech.com)).

“It makes sense to have a monitoring solution that grows as easily and seamlessly as possible,” Daemen adds.

**Consider future support.** Choosing the right solution means little if you don’t have long-term support. “Look beyond the checklist and make sure that you’re getting future

enhancements, that you have access to support, and that the company stands behind its products, because all products eventually fail,” says Michael Sigourney, senior product specialist at AVTECH ([www.avtech.com](http://www.avtech.com)). “You’ll want to know that somebody’s there.”

**Keep costs under control.** Mo Sheikh, marketing manager of IT WatchDogs ([www.itwatchdogs.com](http://www.itwatchdogs.com)), advises enterprises to beware hidden costs and fees. “Invest in an environmental monitoring solution that doesn’t have a significant long-term cost of ownership,” Sheikh says. “A long-term data center management and monitoring solution is critical to preserving an IT investment, but it should not generate recurring expenses that degrade ROI.”

## BUYERS’ CHECKLIST

- ✓ Do you need to monitor remote or local systems?
- ✓ Do you have wired networking or power limitations?
- ✓ What kinds of notifications do you need?
- ✓ Do you have other monitoring needs beyond environmental?
- ✓ How many and what types of sensors do you need?

## KEY TERMS

**Dry contact.**

Refers to an electrical contact that does not make or break a circuit.

**SEMS (Server Environmental Monitoring Systems).**

Refers to products designed to record and report the environmental conditions of servers and clients.

**SNMP (Simple Network Management Protocol).**

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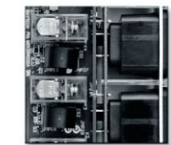
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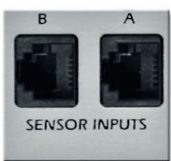
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- Tool less Mounting

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# Effective Communication

## Buy A Unified Communications Solution That Matches Your Needs

**THE TASK OF ACQUIRING** a unified communications, or UC, system suitable for your SME can be a daunting one. The good news is that there’s plenty of good news related to UC these days. Beyond the obvious communication, collaboration, mobility, productivity, and financial benefits that UC can afford enterprises, there are financial benefits to be had from the growing number of UC vendors popping up to vie for your business. According to Robert Arnold, Frost & Sullivan senior industry analyst for unified communications and collaboration, this increased competition means customers have many options from an extremely broad selection of solutions and are well-positioned to take advantage of numerous incentives and increasingly friendly pricing. With this to look forward to, consider the following tips for buying a UC system.

✓ *Prioritize Your Needs*

Any search for a UC system should begin with an in-depth, extensive analysis of exactly what UC features the SME needs, both to satisfy the majority of the enterprise’s users and for employees within specific departments and positions. Arnold says IT should also prioritize and deploy UC solutions that specifically address “known pain points that deliver tangible benefits to high-value employees and that support operational or performance improvement for the greatest number of employees.”

For enterprises that have limited internal support resources, Arnold recommends looking for UC designs that are easy to install, manage, and maintain. “Hosted or cloud-based UC services can also be employed to outsource complexity and provide predictable recurring costs,” he says. Other cornerstones of a UC solution, he says, include rich presence and a fully integrated client. “Rich presence enables users to connect with colleagues at the right time via the right communication mode (IM, voice, or video), which provides the contextual capabilities that can make interactions more productive.” A unified client, whether accessed via desktop computer, Web browser, or mobile device, “makes the full range of UC applications (IM/presence, call handling, VM/UM, conferencing, video, etc.) readily available to users, allowing them to choose the best channel for their current task and to seamlessly and dynamically escalate or switch media types as required,” Arnold says.

✓ *Think Beyond Dial Tone*

Although there are many mindsets IT can take when deciding the UC implementation best for its enterprise, Mike Johnson, practice director for unified computing at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)), advises that thinking beyond the dial tone is best. “Yes, a phone must provide it, but it can provide so much more if the technologies available are designed and implemented properly and with their business needs in mind,” he says. A UC solution offering only dial tone, call control, and voice and email messaging isn’t going to serve the

needs of a technically savvy or mobile SME workforce, he says. Instead, the solution “must also accommodate mobility with single-number reach, Web conferencing with video, and IM with presence.”

Overall, IT should consider the smartphone technology many of their employees carry in their pockets every day “as the standard by which all in-house solutions will


needs of individual users.” For example, deskbound knowledge workers, executives, road warriors, and teleworkers have widely varying requirements, he says, but “customers can save as much as 30 to 40% per user by contracting for application bundles that provide the appropriate features for each user type compared to a la carte application pricing. This licensing

structure is becoming increasingly pervasive with premises-based as well as hosted/cloud UC solutions.”

Johnson says that in a consumption-based model, enterprises should devote an average of \$40 per month per user for a robust UC feature set. Key cost-influencing factors, he says, include whether the backend solution is on-premises or hosted, whether the enterprise’s network is IP voice-ready, what type of telecommunications circuits are used and who provides them, and whether the solution is monitored and managed 24/7/365. “Lesser solutions can be had that do offer the bare minimum IPT components for significantly under that \$40 average cost, but most dynamic and technically savvy workforces would be underserved by those solutions,” he says.

✓ *Define Your Terms*

A common thread through any definition of UC is that UC helps overcome time and distance barriers, but as Arnold says, “UC means many different things to many different people.” Rather than focus on definitions, he advises that IT “should focus on building solutions that can closely satisfy the requirements for their industry, user base, and local business environment.” As for ROI, Arnold says, “Aside from the well-known operational benefits offered by IP-based solutions, user adoption and utilization are key factors in driving ROI.” Thus, select solutions that use familiar user interfaces, are easy to use, and deliver a quality user experience to ensure employees take full advantage of the solutions you roll out.

Johnson says that when deciding on a UC solution, consider that “the most eloquent solution will be the one that saves your employees time, saves your company money, simplifies your environment, and adds value. Investing some time in a focused UC analysis with a trusted partner will provide that end result.” 

### Best Personnel Tip:

✓ *Ease Employees Into UC*

Over time, employees tend to grow accustomed to using certain tools and are hesitant to give them up when forced to. Jim Dossias, Cisco practice director at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)), suggests that instead of forcing a UC solution on users all at once, SMEs should select “in-office champions” from various business units to use and promote the technology before rolling it out company-wide. Additionally, Dossias suggests advertising the system’s best features, using innovative training methods available in different formats, and rolling out the basics first so employees will be hungry for more.

### Savviest Shopping Tip:

✓ *Get Into Detail*

Robert Arnold, Frost & Sullivan senior industry analyst for unified communications and collaboration, advises SMEs to create specific, detailed requests for proposals. “The most successful UC deployments are those that are tailored for each individual account; one size does not fit all,” he says. Additionally, demand multiple references from the vendor of implementations similar to what you’re considering and “evaluate not only the technology but also provider service and support.”

be measured,” Johnson says. Additionally, IT should analyze how various UC features can help the enterprise meet its business-related goals. “An assessment of the current state of UC systems vs. the vision can be performed at a high level in presales engagements or in a deep dive via budgeted consultative engagement,” he says.

✓ *Build On What You Have*

When budgeting for a UC solution, factor in current infrastructure that you can integrate into a broader UC implementation, including PBX, messaging, email, and conferencing systems. Doing so will help reduce upfront costs or “premises-based or hybrid CPE [customer premises equipment]/cloud investments,” Arnold says. He adds that “software licensing has become much more flexible and granular, enabling customers to more cost-effectively match a myriad of capabilities to the

### BONUS TIPS:

✓ *Think for tomorrow.*

“Deploy for today but think longer-term,” says Robert Arnold, Frost & Sullivan senior industry analyst for unified communications and collaboration. IT should investigate UC solutions that enable the enterprise to migrate and adopt new capabilities at its own pace, “both today and over time as their requirements change.”

✓ *Use a TCO perspective.*

According to Mike Johnson, practice director for unified computing at Logicalis ([www.us.logicalis.com](http://www.us.logicalis.com)), although many ROI models are available, the TCO perspective is more important. “To understand if a UC solution is right for your business, you must consider the day-to-day support needs of the workforce and the requirement to provide reliable advanced UC features without investing in staff or training,” he says.



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PRODUCT SPOTLIGHT

# Fire Protection

Product	<h2>Brady Fire Signs</h2> 	<h2>Brady Photoluminescent Signs</h2> 	<h2>Fike ECARO-25 Clean Agent Suppression System</h2> 
Description	<p>Brady fire signs help you quickly identify fire exits, fire extinguishers, and other fire suppression equipment in your facility. Additionally, Brady fire signs can be used as a guide for proper emergency escapes. With exit and glow-in-the-dark fire signs, you can clearly indicate flammable materials and mark your entire facility for emergency safety. Brady fire signs are available in a variety of sizes, materials, and messages.</p> <ul style="list-style-type: none"><li>• Mark emergency paths and fire exits</li><li>• Label flammable materials or fire extinguishers and alarms</li><li>• Glow-in-the-dark signs are easy to see during power outages</li></ul> <p><b>Best For:</b> Any business that needs clearly marked paths and fire exits in case of an emergency.</p> <p><b>Contact:</b> (800) 250-3082   <a href="http://www.bradyid.com">www.bradyid.com</a></p>	<p>Brady offers a full line of electricity-free photoluminescent signs to help meet your egress needs. Photoluminescent signs are ideal for green buildings and can help builders earn points toward a variety of LEED credits. Brady's photoluminescent signs are a perfect option for areas with possible electrical power failure. Available in a variety of materials and sizes, Brady photoluminescent signs are 100% reliable and help facilitate safe evacuation during fires, power outages, and emergency situations.</p> <ul style="list-style-type: none"><li>• Non-electrical signs that are visible without power</li><li>• Mark doors and paths for safe evacuation during emergencies</li><li>• Signs are durable and easy to install</li></ul> <p><b>Best For:</b> Companies that need reliable lighted signs, especially in darker areas or places prone to power outage.</p> <p><b>Contact:</b> (800) 250-3082   <a href="http://www.bradyid.com">www.bradyid.com</a></p>	<p>Fike's ECARO-25 system uses a gaseous clean agent to suppress fires without damaging high-end equipment, electronics, and irreplaceable items with water. It uses an agent called FE25 made by DuPont that absorbs heat energy at the molecular level so a fire can't sustain itself. The system uses Impulse Valve Technology, which efficiently and effectively puts out fire by combining the reliability and efficiency of a rupture disc with the flexibility of electric actuation.</p> <ul style="list-style-type: none"><li>• Unique, environmentally safe fire-suppressing agent</li><li>• Protects expensive infrastructure from fire damage as well as additional water damage</li><li>• Use your existing Halon pipe network and update it with the ECARO-25 system</li></ul> <p><b>Best For:</b> Enterprises that need an efficient fire protection system that prevents excessive damage.</p> <p><b>Contact:</b> (800) 937-3453   <a href="http://www.fike.com">www.fike.com</a></p>

Product	<h2>Kidde Fire Systems</h2> 	<h2>Peripheral Manufacturing Inc. Aero-K®</h2> 	<h2>Simplex FlexSim</h2> 
Description	<p>Kidde Fire Systems' ARIES NETLink system control units are designed for industrial, commercial, and high-tech facilities in need of fire detection and alarm notification management. The ARIES NETLink suppression control panel works with a variety of systems, including clean agents, CO<sub>2</sub>, wet and dry chemical systems, and water-based systems.</p> <ul style="list-style-type: none"><li>• Programming that enables complex releasing sequences</li><li>• Two notification and two release notification circuits</li><li>• Supports fiber-optic cable and copper wiring</li><li>• Offers advanced troubleshooting and diagnostic tools</li><li>• Efficient wire routing and easy access to power supply</li><li>• Works with water mist, water deluge, pre-action, and foam water-based systems in addition to CO<sub>2</sub> and chemical systems</li></ul> <p><b>Best For:</b> All types of enterprises looking for a full-featured management control panel for a fire suppression system.</p> <p><b>Contact:</b> (508) 881-2000   <a href="http://www.kiddefiresystems.com">www.kiddefiresystems.com</a></p>	<p>Aero-K® is a new aerosol technology fire suppression system, 10 times more effective than other fire extinguishing agents. Aero-K® is designed to protect enclosed spaces such as server and telecommunication rooms. Aero-K® uses smoke detection, electronic activation, or can be heat activated. An Aero-K® system requires no floor space or piping and can be expanded, reduced, or moved.</p> <ul style="list-style-type: none"><li>• Environmentally friendly, 100% green</li><li>• Non-oxygen-depleting</li><li>• Won't corrode steel, plastic, nickel, brass, zinc, copper, or other commonly used composites</li><li>• Leaves little residue after venting</li><li>• Has a 10-year shelf life</li><li>• On GSA Advantage: GS-07F-04262V</li><li>• IT applications, marine, wind turbine, vehicle engines, and many more</li></ul> <p><b>Best For:</b> Information technology and telecommunications industries at risk of electrical fire hazards. Also used in B-class fuel storage areas.</p> <p><b>Contact:</b> (800) 468-6888, ask for Ron <a href="http://www.fire-suppression-systems.com">www.fire-suppression-systems.com</a></p>	<p>The FlexSim solution from Simplex provides data center managers with a fire-rated vinyl solution option for hot aisle/cold aisle isolation. The FlexSim flexible curtain vinyl is provided in the standard fire-rated version and a second version, which includes built-in anti-static inhibitors. FlexSim is the first domestically produced clear, flexible curtain vinyl to meet the ASTM E-84 Class 1 rating for lower flame and smoke emissions in a fire.</p> <ul style="list-style-type: none"><li>• Two versions: FlexSim FR for standard applications and FlexSim FR AS for anti-static applications</li><li>• Meets or exceeds fire marshal requirements</li><li>• Made with non-phthalate plasticizers and non-halogen additives</li><li>• Complements existing Simplex curtain materials</li></ul> <p><b>Best For:</b> Data center managers in need of a safe, fire-tested and approved material for hot aisle/cold aisle isolation.</p> <p><b>Contact:</b> (800) 854-7951   <a href="http://www.simplexstripdoors.com">www.simplexstripdoors.com</a></p>

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Fike Prolnert Gas Fire Suppression System



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**Best For:** Companies that need to replace older fire suppression systems to support a green initiative and save money.

**Contact:** (800) 937-3453 | [www.fike.com](http://www.fike.com)

Fike SigniFire IP Video Flame & Smoke Detection Camera



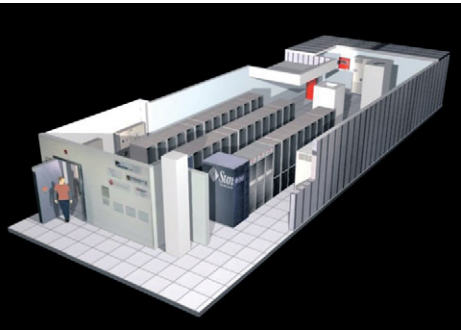
The SigniFire IP represents a family of turnkey flame, smoke, and intrusion detection camera solutions that visually detect the presence of fire or smoke at its source, independent of airflow in the area. This technology offers a critical advantage for early warning fire detection, identifying and reacting to fire, and protecting lives and property.

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**Best For:** Enterprises looking to identify smoke in large spaces and have video evidence for insurance purposes.

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BUYING TIPS:

# Fire Protection




**YOU PROBABLY ALREADY HAVE** a lot on your plate if you’re in charge of protecting the data center. Hackers, hardware and software failures, and changes to the physical infrastructure are all concerns. Fire protection is one issue that probably isn’t on top of your list, but if your data center isn’t capable of suppressing fires, all the rest of your hard work may be for naught. Here, we’ll examine what key features you should look for when investing in data center fire protection.

**Alert options.** You’ll need to invest in a smoke and fire detection system that can alert employees and IT staff to problems. Some models are capable of detecting the various stages of a fire, such as visible smoke vs. flaming fire vs. intense heat, to allow you to set off alarms or activate various stages of fire protection.

**Suppression options.** Fire protection is generally broken down into water and non-water options. The obvious downside to using a sprinkler system is that electronic devices and water can be a bad combination, especially in situations that are started by electrical fires. Thus, most data centers opt to go with a clean agent suppression system, which is designed to leave no residue and is safe for both electronics and people, unlike some chemical-based fire protection. “Some clean agent suppressants are complex chemical compounds which act on the fire in various ways, such as reducing the heat, while others are pure inert gases which displace the oxygen to inhibit combustion,” Joseph says.

Regardless of which type of suppressant is selected, you’ll need to know at what stage during a fire the detection system should trigger the suppressant to release. According to Steve Joseph, director of market development for Xtralis (www.xtralis.com), “Unnecessary or poorly timed suppression dumps must be avoided since the cost of such mistakes is enormous, because a volume of clean agent sufficient for even a modestly sized area can cost tens of thousands of dollars to replace.” In short, effective detection is key, as the suppression system is only as good as the detection system initiating the release.

**Emergency power off.** Nearly all data centers also install an EPO (emergency power off) system, which will shut off any electricity to the area where the detector senses a fire. Look for models with industrial-grade contactors, heavy-duty relays, and hard-piped wiring to prevent any accidental shut-offs. The EPO will need to be able to automatically work with your fire detection system. 

## BUYERS’ CHECKLIST

- ✓ Find a smoke/fire detection system that meets the needs of your data center, in terms of stages of fire protection and number of physical detection locations.
- ✓ Research the various clean agent suppression options and make sure your sprinkler system is capable of working with the clean agent suppression system.
- ✓ Invest in an emergency power off system to shut off electricity when a fire is detected.

## KEY TERMS

**Agent storage container.**

The assembly or unit that stores the clean agent fire suppression liquid until it needs to be released when prompted by the suppression control panel.

**Class C.**

Fire breakouts that involve electrical equipment where a non-conductive extinguishing agent must be used.

**Clean agent.**

A type of fire suppression system that leaves no traces behind and won’t damage electronic equipment.

**Deluge.**

A system where all the sprinklers connected to the water piping system are open. If the deluge valve opens due to a signal from the fire alarm system, the entire area will be sprayed with water.

**Early warning smoke detector.**

A passive detector that uses ionization and photoelectric sensors.

**Heat detector.**


A unit that sends a response when the convection of thermal energy changes the temperature of the device’s heat-sensitive element.

**Suppression control panel.**

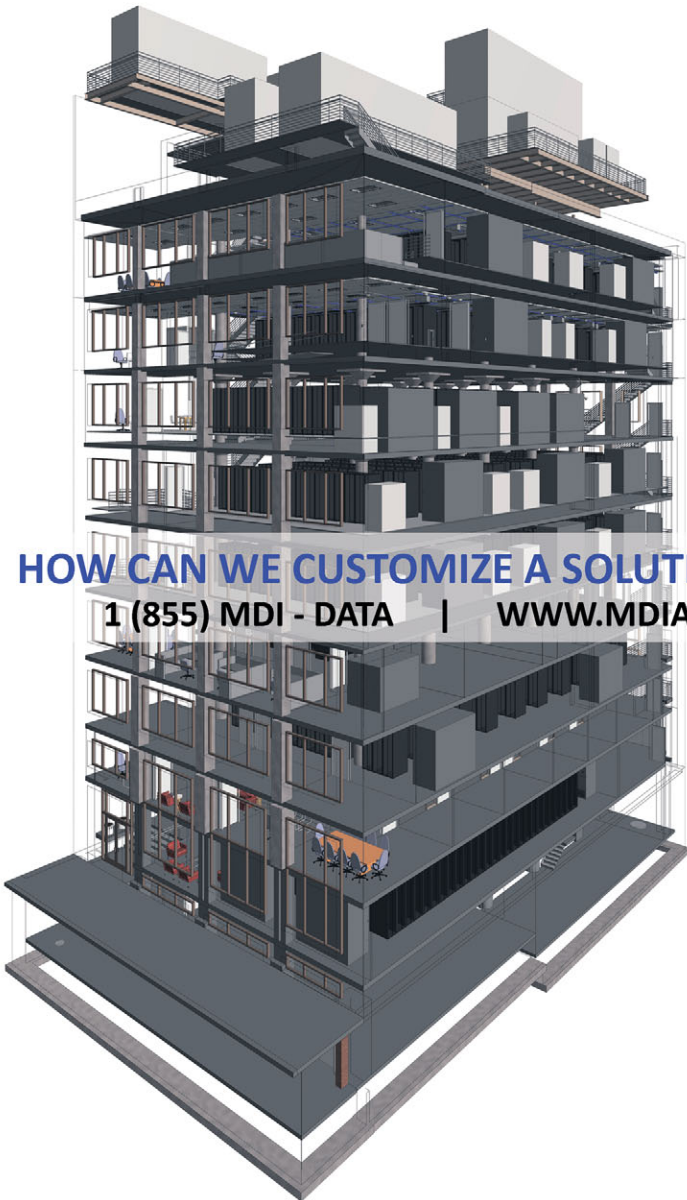
The unit that houses the interface you use to control the fire protection system, including managing the smoke and fire detection systems and report alerts or sound alarms.

**Very early warning smoke detector.**

A type of smoke detector that actively samples air particles via aspiration to find non-visible smoke.



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PRODUCT SPOTLIGHT

# Data Center Furniture

Product	<h2>Data Center Depot Hercules LAN Station</h2> 	<h2>Data Center Depot Samson LAN Station</h2> 	<h2>DustShield™ Computer Enclosures</h2> 
Description	<p>The Hercules LAN Station has an industrial-strength, super heavy-duty four-post frame and measures 84 x 72 x 36 inches. It's easy to assemble and has a 72- x 36-inch work surface, two upper shelves (72 x 24 inches), two steel legs with levelers, and three horizontal back panels.</p> <ul style="list-style-type: none"><li>Shelves can hold up to 800 pounds and are adjustable in 1-inch increments</li><li>Legs are made of 14-gauge tube steel</li><li>Shelves are steel-reinforced and have high-density laminate</li><li>72-inch-high frame available for the same price as the 84-inch model</li><li>Available in a variety of sizes</li><li>Lifetime guarantee</li></ul> <p><b>Best For:</b> Data centers in need of an easy-to-assemble, industrial-strength LAN station.</p> <p><b>Price:</b> Starts at \$1,020</p> <p><b>Contact:</b> (877) 429-7225   <a href="http://www.datacenterdepot.com">www.datacenterdepot.com</a></p>	<p>The Samson LAN Station features a super heavy-duty cantilever frame and measures 84 x 48 x 36 inches. The work surface measures 48 x 36 inches, and the two upper shelves measure 48 x 24 inches. The Samson comes with two horizontal back panels.</p> <ul style="list-style-type: none"><li>Shelves can hold up to 450 pounds and are adjustable in 1-inch increments</li><li>Legs are made of 14-gauge tube steel</li><li>72-inch-high frame available for the same price as the 84-inch model</li><li>Lifetime guarantee</li><li>Free consultation</li><li>Available in a variety of sizes</li><li>Optional accessories, including mobile server cart and pull-out keyboard shelves, are available</li></ul> <p><b>Best For:</b> Data centers in need of a super heavy-duty LAN station that is easy to adjust or expand.</p> <p><b>Price:</b> Starts at \$966</p> <p><b>Contact:</b> (877) 429-7225   <a href="http://www.datacenterdepot.com">www.datacenterdepot.com</a></p>	<p>DustShield Computer, Monitor, and Display Enclosures protect electronic equipment in industrial, manufacturing, and warehouse environments. DustShield Enclosures are available for all models and configurations of devices and can be customized for extreme environments and ergonomic requirements. Standard and custom upgrades are available, including touchscreens, heating, and cooling.</p> <ul style="list-style-type: none"><li>RF equipment compatibility</li><li>Impact/heat/cold/corrosion resistant</li><li>Filters 98% of airborne contaminants</li><li>NEMA 12 and NEMA 4 rated</li><li>Available in grey or black</li></ul> <p><b>Best For:</b> Enterprises that require efficient, cost-saving, low-maintenance, dependable performance from computer workstations in dusty, dirty, grimy, extreme heat, or freezing cold environments.</p> <p><b>Price:</b> Starts at \$425</p> <p><b>Contact:</b> (800) 587-9557   <a href="http://www.dustshield.com">www.dustshield.com</a></p>

Product	<h2>Hergo Large Screen Multi-Media Cart</h2> 	<h2>Hergo Personal Workstation</h2> 	<h2>Hergo Technical WorkBench</h2> 
Description	<p>Hergo's large screen open frame cart features a Universal Tilt Plasma LCD Mount to accommodate units from 37" to 60".</p> <ul style="list-style-type: none"><li>72- x 36-inch (HxW) frame assembly</li><li>26-inch legs with heavy-duty casters</li><li>12-inch utility shelf to hold remote controls, DVDs, or product manuals</li><li>36-inch horizontal cable raceway</li><li>Quality powder coat finish—environmentally friendly</li><li>Options include power management, rackmount attachment brackets, and keyboard/mouse assembly</li></ul> <p><b>Best For:</b> Customers needing a sturdy, all-in-one solution for presentation and AV equipment. Ideal settings include conference rooms, studios, classrooms, and libraries.</p> <p><b>Price:</b> Contact a Hergo specialist today for pricing</p> <p><b>Contact:</b> (888) 222-7270   <a href="http://www.hergo.com">www.hergo.com</a></p>	<p>The Hergo Personal Workstation is a fully modular right- or left-hand user solution. Designed for a single- or dual-monitor setup, this high-profile system provides maximum vertical mounting space for overhead storage and suspended or track-mounted flat-panel screen management.</p> <ul style="list-style-type: none"><li>Double 11 GA metal-slotted frame unit measuring 84 x 60 inches (HxW)</li><li>72- x 30-inch (WxD) laminated desktop with left or right return (18-inch deep); also available in 60- x 30-inch configurations</li><li>Monitor track shelf with LCD suspension system</li><li>18.5-inch-deep mounting shelves with upward or downward brackets</li><li>30-inch-wide metal-locking storage compartment with laminated, hinged flip-up door</li><li>Power and cable management options</li></ul> <p><b>Best For:</b> Multitaskers who require additional work surface and storage space.</p> <p><b>Price:</b> Contact a Hergo specialist today for pricing</p> <p><b>Contact:</b> (888) 222-7270   <a href="http://www.hergo.com">www.hergo.com</a></p>	<p>Hergo's Technical WorkBench has the quality and durability of an industrial rack with a sleek, cutting-edge modern presentation.</p> <ul style="list-style-type: none"><li>Three 11 GA Metal Base Frames—84 x 24 inches (HxW)</li><li>High-pressure laminated desktop—72 x 36 inches (WxD; ESD top also available)</li><li>Two telescopic support uprights</li><li>Three vertical cable management raceways—60 inches (length)</li><li>Six gliders</li><li>Quality powder coat finish—environmentally friendly</li><li>Options include shelving, power management; overhead light assembly; tool trolley; dry erase, cork, or peg board; storage bins; keyboard tray</li></ul> <p><b>Best For:</b> Laboratory, industrial, or technical environments where a user needs an open work surface to assemble or repair equipment.</p> <p><b>Price:</b> Contact a Hergo specialist today for pricing</p> <p><b>Contact:</b> (888) 222-7270   <a href="http://www.hergo.com">www.hergo.com</a></p>

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

DustShield™ Printer Enclosures



DustShield Bar Code Label Printer Enclosures secure continuous function and reliability. With DustShield protection, hardware can be efficiently placed where work is done in any industrial, manufacturing, or warehouse environment. DustShield Printer and Label Printer Enclosures are available for all brands and models of printing devices and can be customized for extreme environments and ergonomic requirements.

- Protects printer media integrity and performance
- Impact/heat/cold/corrosion resistant
- Filters 98% of airborne contaminants
- NEMA 12 and NEMA 4 rated
- Available in grey or black

**Best For:** Companies that require efficient, cost-saving, low-maintenance, dependable performance from industrial printing devices in dusty, dirty, grimy, extreme heat, or freezing cold environments.

**Price:** Starts at \$310

**Contact:** (800) 587-9557 | [www.dustshield.com](http://www.dustshield.com)

Emcor® FP2 Console by Crenlo



The Emcor® FP2 series console features flat-panel displays and a robust, welded construction that provides superior equipment protection. The open-architecture design offers a large, functional work space, with a variety of countertop options to fit into any design scheme. Consoles can be ordered with as few as one bay or as many as 20, in straight or angled arrangements, for single-desk or large-scale command center installations. Crenlo's configure-to-order and custom manufacturing capabilities make your selection virtually limitless.

- Flexible modular design
- 19-inch and 24-inch rackmount capabilities
- Ergonomic design
- Large selection of countertop options
- Hidden slat wall for accessories and easy adjustment

**Best For:** Mounting and protecting a variety of broadcast and security monitoring equipment, including CCTV and surveillance, matrix switching gear, digital recorders, controls, computers and servers, and flat-panel displays.

**Contact:** (507) 287-3535 | [www.crenlo.com](http://www.crenlo.com)

Hergo Commando2 Console



Hergo's double island top Command Center is a modular, low-profile multi-monitor workstation for the modern-day jack-of-all-trades operator.

- Four base frames—42 x 30 inches (H x W)
- Two high-pressure laminated island desktops—30 x 72 inches (W x L)
- Four track-mounted flat panel extension arms
- Side enclosure and modesty back panels
- Slide-out CPU shelf
- Under desk 19-inch relay rack

**Best For:** Command centers, call center and network operations where a multitasker can rise to the challenge and tackle daily hurdles in an attractive, efficient, and functional workspace.

**Price:** Contact a Hergo specialist today for pricing

**Contact:** (888) 222-7270 | [www.hergo.com](http://www.hergo.com)

Rackmount Solutions Adjustable Height Corporate Training Tables



Rackmount Solutions knows one size does not fit all. The company offers tables that adjust from 28 to 35 inches, providing your attendees with the comfort and ergonomic efficiencies that come from the ability to adjust the height of your training table. These tables are available in five stock colors, have a lifetime warranty, and are made in the USA. Customizable with a variety of keyboard drawers, CPU holders, and locking cable bays, these units ship within three days of receipt of order.

- Choose from stock 36-, 48-, 60- or 72-inch-wide tables
- Accommodates up to two users
- Depths of 24 or 30 inches provides plenty of work surface
- Sturdy steel legs and 1.25-inch-thick table top surfaces
- Modesty panel matches top surface for beautiful aesthetic
- Locking cable bay as option to provide complete security for cables and equipment cords

**Best For:** Corporate training areas that require versatile, highly durable tables catering to multiple users and frequent ergonomic adjustments.

**Price:** Starts at \$268

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

Rackmount Solutions Bravo Power Corporate Training Tables



Bravo Power Corporate Training Tables from Rackmount Solutions make it easy to connect your monitor, an Internet connection, and additional peripherals to Rackmount heavy-duty corporate training room tables by using a recessed, pop-up, or under-table power source. These tables are customizable with a variety of LCD mounts and keyboard trays and are ideal for environments where a power source on the table enhances usability and convenience.

- Choose from stock 36-, 48-, 60-, or 72-inch widths or create a custom configuration
- Common power modules used are two CAT 6 RJ-45 and two 15A/125V receptacles with circuit breaker, but modules can be interchanged to fit your needs
- Heavy-duty 14-gauge steel legs and a 1.25-inch-thick laminated table surface make these units almost indestructible
- Superior strength with support for up to 900 pounds

**Best For:** Corporate training areas that require versatile, highly durable tables with the convenience of power built in.

**Price:** Starts at \$439

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

Rackmount Solutions Heavy Duty LAN Rack/Computer Station



The Heavy Duty LAN Rack/Computer Station from Rackmount Solutions is designed for heavier equipment loads, with each shelf supporting more than 850 pounds. All shelves are adjustable in 1-inch increments and may be placed anywhere on the frame. This workstation features a high-quality tube steel frame and unlimited variations when combining different LAN station widths, plus corner stations.

- Fully welded four-post frame with 2-square-inch, 14-gauge steel virtually eliminates vibration
- 14-gauge steel horizontal back panels for maximum strength and stability
- Available in 36-, 48-, 60-, and 72-inch widths; 84 inches high
- 1.25-inch-thick work surfaces support more than 850 pounds each
- LAN rack ships fully enclosed in a shipping crate to protect from damage

**Best For:** Anyone who needs shelving that can support heavy loads or flexible configurations.

**Price:** Starts at \$1,154

**Contact:** (866) 207-6631 | [www.rackmountsolutions.net](http://www.rackmountsolutions.net)

BUYING TIPS:

# Data Center Furniture



**IF ONLY BUYING** data center furniture were as easy as walking into a store, pointing at various items, and declaring, “I’ll have that, that, and that.” But, alas, things are a bit more complicated. The following advice from several experts will help ease the task.

**Form and function.** Before buying furniture, do some planning first, says Rackmount Solutions Account Manager Susan Wynne ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)). “Know the function of the room. Have in mind a design or layout of the space you’re wanting to create. A sketch or draft of the room with the various components in place is helpful,” she says. Additionally, know the dimensions of the space and furniture to ensure you meet requirements. It’s also helpful to know how a workstation will be used and by how many people to ensure overall comfort.

For companies with multiple users plying away over 24-hour shifts, “height adjustability/maneuverability is a must,” says Jennifer Monroe, president of Office Organix ([www.officeorganix.com](http://www.officeorganix.com)). Beyond helping avoid static seated postures and fatigue from sitting, she says, “it’s common knowledge that multiple postures over the workday lower the risk of injury on the job. Most high-end electrically adjustable IT furniture manufacturers offer an excellent warranty on the motor or moving parts, too, so the concern about breakdown or repair is minimal.”

**Weighty issues.** Other considerations to keep in mind include built-in grommet cable management and power-port features to manage connections and wiring, Monroe says, as well as warranty stipulations and weight specifications/limitations. “Some ‘fine print’ often says that overall a unit may accommodate a total of 1,000 pounds, but if you read closely, per-shelf weights are quite different,” Monroe says, so “avoid overloading and nullifying the warranty.”

Kristen Speranza-Diamond, vice president of Hergo ([www.hergo.com](http://www.hergo.com)), says that it’s important to stay up-to-date with changing technologies. “All of the equipment and LCDs are becoming much less expensive, so everyone is upgrading and making the transition to go compact,” she says. Thus, flat-panel arms are more important than ever in terms of addressing space efficiency and ergonomics. “With the economy still in a precarious state, office and lab space is at a premium, and it’s beneficial to go vertical

and make the best use of square footage,” she says.

**Know the maker.** Doing your due diligence to find a trustworthy, reliable vendor is important, says Eli Hertz, Hergo CEO and president. “You want a vendor that you can invest in for the future. You don’t

want to deal with a company that will only be around for a one-time purchase.” Similarly, search for a vendor that can offer a complete solution, says Speranza-Diamond, so you’re not in a position of having to go to multiple vendors to complete a project.

## BUYERS’ CHECKLIST

- ✓ **Seek out quality.** Although looking for deals can help companies on a tight budget, sacrificing quality as a result can end up costing companies more in the long term, especially if buying from vendors that don’t offer lifetime warranties on furniture.
- ✓ **Know the delivery terms.** Before buying furniture, determine if the delivery includes bringing it inside the facility, requires a lift gate or loading dock, and includes assembly or puts the responsibility on you or a third-party installer.
- ✓ **Go modular when possible.** Buying components that are interchangeable lets you modify the setup to meet changing needs, including downsizing or expanding space. Increasingly, individual furniture units can be mixed and matched and layout configurations easily altered.
- ✓ **Build vertically.** Purchasing components that support building vertically promotes space efficiency.

## KEY TERMS

- Adjustable height.**  
Refers to components users can raise or lower for a better individual fit. Some higher-end furniture can be adjusted electronically.
- Cable management.**  
Built-in grommets, channels, or other features to manage cables and wiring.
- Modular.**  
Furniture components that are interchangeable or can be easily modified.
- Recessed.**  
Platforms that sit lower than the tabletop itself, sometimes at an angle, to allow for easier viewing of monitors.

SIX QUICK TIPS

# Forgotten Maintenance

Routine Upkeep Can Make Your Data Center More Efficient & Prevent Disasters

A DATA CENTER’S CLEANLINESS should be a key concern for data center managers because it can mean the difference between efficiency and wasted time and energy. And although most data center admins probably perform some maintenance on their servers and server room, there is likely some cleaning, such as on and under raised floor tiles, that is missed along the way. To help with regular upkeep, read on for tips from some industry experts about maintaining your data center.

✓ Subfloor Cleaning

According to Kevin Vickery, vice president of sales at ProSource Mission Critical Services ([www.team-prosource.com](http://www.team-prosource.com)), “Regularly scheduled subfloor cleanings help to prevent dust accumulation inside server components, leading to better reliability.” For example, the concrete pad and plenum under raised flooring can accumulate dirt and dust that falls through holes in the data center’s flooring. The cool air that circulates underneath the data center floor can carry away that debris and push it into the data center hardware, where the cooling is typically aimed. “Subfloor encapsulation of the concrete pad under the raised floor helps reduce dust in the data center that can lead to server component failures,” Vickery says.

Deposited dust can get into circuitry and clog system fans or foul up electronic equipment. Dust in fans can be a particularly dangerous problem for data centers because the reduced airflow can cause servers to overheat, which can lead to repairs that cause downtime in the data center. In fact, says Bill Montgomery, CFO at Premier Solutions ([www.premiersolutionsco.com](http://www.premiersolutionsco.com)), “Keeping the center free of particulates is extremely vital to the server’s health and performance.” Just a few other hazards of particulates in your airflow include an increased fire risk and the possibility that fire suppressants will falsely identify the dust as smoke and release the fire suppressant onto your data center. Employees that are allergic to dust can also be affected by the environment, and a particulate-filled data center can negatively affect the health of IT staff and employees that regularly work inside the data center. In short, an unmaintained subfloor can create environmental, health, and safety hazards.

✓ Tile Cleaning

Many data centers feature raised floor tiles that are designed to remove static electricity. “Regularly scheduled raised floor cleanings help to protect and prolong the life of the raised

floor tiles so that they continue to dissipate static electricity that can cause server failure,” Vickery says. The biggest problem that can arise is when dirt or debris on the tile prevents the floor from properly dissipating static electricity, so a person may continue to build up static while moving

and shock computer components when working on the equipment.

You’ll also want to be careful that you don’t use cleaners or materials that will chip or remove laminate from the tile because the deterioration could also reduce the antistatic effectiveness of the tile. “Sticky floor mats

should be installed to reduce the traffic of debris in the room,” says Michael Petrino, vice president of PTS Data Center Solutions ([www.ptsdcs.com](http://www.ptsdcs.com)). “These can be disposable or a reusable mat that needs to be cleaned.”

✓ Hardware Cleaning

Hardware cleaning is probably the least likely type of maintenance to be forgotten, but it’s important to remember that, as outlined above, your valuable equipment is likely where dust and dirt will settle if it’s been blown through the cooling system. It’s best to wipe down or vacuum the equipment, if possible, to rid it of the dust. Additionally, it’s inadvisable to use chemical cleaning agents on the equipment, because the chemical concentrations may be detected by environmental monitoring systems, and liquid may set off any leak detection systems your data center has in place.

✓ Check & Recheck

It’s helpful to monitor your systems to make sure nothing seems to be lagging behind. “You can only manage what you can measure,” Petrino says. “So in this case, it is a matter of monitoring and data logging.” To that end, Petrino recommends implementing a comprehensive monitoring system that includes room temperature and humidity; support infrastructure such as UPSes, cooling, power distribution, and generators; servers; and network equipment. You can also invest in data center maintenance management software, which typically includes contracts, drawings, maintenance procedures, and history. P

## Most Practical Tip:

✓ Enlist Help

If you feel that your IT staff wouldn’t have enough time or would be unable to effectively maintain the data center, you should hire a data center cleaning company to implement a preventive maintenance program. “Lean on your cleaning company for conventional methods of controlling the environment,” says Bill Montgomery, CFO at Premier Solutions ([www.premiersolutionsco.com](http://www.premiersolutionsco.com)). “Most provide the simple, yet valuable, products in cooling efficiency that will keep your HVAC in balance and not overwork the equipment.” You can even set up a cooling maintenance SLA that will guarantee at least one annual onsite visit.

Additionally, says Kevin Vickery, vice president of sales at ProSource Mission Critical Services ([www.team-prosource.com](http://www.team-prosource.com)), “Only hire data center cleaning professionals that specialize in cleaning data centers because they have the knowledge, expertise, trained staff, and the proper equipment, as well as the processes, to safely and effectively clean your data center.” A traditional cleaning staff may use harsh chemicals on floors and be unfamiliar with the proper ways to maintain the expensive, delicate equipment in your data center. “The cost of prevention by providing a preventive maintenance cleaning program is a fraction of the cost of downtime for any data center,” Vickery says.

## Easiest Tip To Overlook:

✓ Don’t Forget UPS Systems

When it comes to ongoing maintenance, it’s important to create a schedule and stick to it for important systems such as UPSes. “Always keep [up with] the annual preventive maintenance of UPSes,” says Premier Solutions’ Bill Montgomery. “We find very often that the maintenance has lapsed, and the end user is unable to receive software updates, check battery life, status logs of the system, and must have the UPS recertified before a maintenance agreement can be reinstated.” An annual onsite data center optimization, preferably performed by a power and cooling expert or service provider, can serve as a health check for your data center. “Your IT center is a dynamic environment and the change in climate needs to be recognized,” he says.

## BONUS TIPS:

✓ Learn best practices from pros.

ProSource Mission Critical Services’ Kevin Vickery recommends glean info from the Association of Data Center Cleaning Professionals ([www.ADCCP.org](http://www.ADCCP.org)), which is a non-profit trade association that was created in 2011 to educate and protect data centers by developing industry standards for vendor services. It can also help to provide you with best practices, such as recommended equipment and chemicals, and connect you with vendors to help you find a certified provider. Any member of the ADCCP must adhere to the minimum cleaning standards set by the group.

✓ Track airflow and seal leaks.

Perform a check of the raised floor to find holes and openings in server cabinets to prevent bypass airflow, which can lower efficiency due to decreased under floor static pressure. The end result of bypass airflow will be hot spot areas in your IT equipment, so you’ll want to seal up those holes in the raised flooring. Another benefit of sealing up the holes is that you’ll help to reduce the amount of dust and dirt that falls under the tiles, so you’ll spend less time cleaning the under-floor environment.



# Set Up A Colocation Arrangement

Research & Communication Are Key To An Agreement You Can Live With

**BY THE TIME** you’ve selected a colocation provider, you’ve no doubt expended a good deal of time and energy arriving at the decision. Unfortunately, you’re still left with the small matter of ironing out an agreement—a process containing myriad details that, if not addressed with care, could seriously impair the enterprise for years to come. Reviewing contracts and SLAs is imperative, but so is knowing the right questions to ask, demands to insist on, team members to include, and more. Before signing on the dotted line, consider the following.

### Determine Your Value

When taking an in-depth look into your contractual relationship with a colocation provider, it’s important to forecast what you’re paying for beyond a monthly charge for the space. Darin Stahl, Info-Tech Research lead analyst, suggests building a six-year budget that includes monthly recurring costs but also one-time fees and transition and exit costs. “The figures don’t have to be precise, but throw them in there and give yourself and your management team a full view of what you’re signing up for,” Stahl says.

Look particularly carefully at pricing for services provided, such as if you need the provider to, say, remotely restart a server. The contract may include this service cost, Stahl says, but some brand-name vendors “exclude those costs unless you buy a super duper services package on top.” Thus, pricing may look good hosting-wise, but the vendor may charge upward of “\$55 per 15 minutes of incident and a one-time fee of \$300. That’s when you really have to think about what the modeling looks like,” he says. Documenting real long-term costs, he says, lets you enter negotiations knowing your real value to the vendor. So, instead of \$2,800 bucks a month, he says, “I’m a \$1.9 million value, and I think that’s a much better place to be from a negotiating place with the vendor.”

### Plan Your Exit

Before signing a contract, says Brett Femrite, director of business development at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)), review the agreement and SLA for uptime and performance guarantees and “recognize and document any benefits due if the SLA is not met.” Also note access and support policies and procedures; points of contact for support, sales requests, and escalation management; lead times for provisioning orders; whether you must obtain additional insurance; whether access to telecom carriers is needed; and any compliance requirements to meet. “In legal negotiations, communicate the intent or the underlying concern with any points that you are proposing to change,” Femrite

says. “If the provider company understands your reason for requests with the contract, they will know how they can accommodate you in the negotiation.”

Also heed issues concerning new services added and transition details. Stahl says if a vendor delivers a new rack, for example, the agreement may cite a given number of

### Key Points

- Enterprises should determine all costs associated with a colocation provider, beyond monthly recurring fees.
- Companies should carefully review SLAs for uptime and performance guarantees.
- Enterprises should know how the provider will handle adding services in the future, as well as exiting the provider’s space.

### Action Plan

- Define your requirements and expectations of the provider.
- Determine the products, services, and equipment the vendor provides.
- Determine the lead time the provider needs to provision services.
- Present your requirements to the provider for its responses.
- Set a timeline for completion.
- Review the agreement and determine who will sign it.
- Conduct legal negotiations to communicate your intent and concerns with points you’d like changed.
- Set a plan of action and schedule a move-in date.

### Get Started

Before negotiating with a colocation vendor, have on hand a complete copy of the agreement, SLAs, acceptable use and access policies, billing and invoicing procedure details, insurance requirements, and the vendor’s contact points. Include in the negotiations and contract signing the company’s CIO/IT director, legal team, CFO, network and systems administrators, infrastructure manager, appropriate IT and facilities staff, and those executives who will eventually help transition the shift from deployment and maintenance issue to planning future innovation and development needs.

days you have to contact the provider before it deems that you’ve accepted the service. “So now you’re on the hook for it payment-wise, and if there’s any deficiencies with the service, you have to go through the standard protocols and issues with respect to how you mitigate that.” Better, he says, is defining your acceptance terms when writing a statement of work and testing it “because it’s the one time you have to withhold payment from the vendor and make them resolve that deficiency,” he says.

You should also know the provider’s terms for transitioning in and out of the environment, Stahl says, as “exiting early is a real possibility.” Here, a contract might state the provider can give 30 days’ notice to exit, which likely isn’t enough time to remove all your equipment. “What happens on the 31st day?” he says. Check if you’ll get the vendor’s most skilled team to assist with the exit and what the related costs are, he says.

### Top Tips

- ✓ **Know thy neighbor.** Smaller colocation providers that compete on price and don’t own their facility typically can’t offer an iron-clad SLA around the actual facility, says Info-Tech lead analyst Darin Stahl. Using such providers can result in acquiring “interesting neighbors,” such as one operating a spam ring. One Info-Tech customer, Stahl says, was involved in such a scenario in which the entire IP block the provider was managing ended up on a blacklist and the customer “couldn’t get stuff in and out from an email perspective.” Ultimately, the customer had to switch providers, which cost tens of thousands of dollars. “A lot of this business is very much like buying real estate,” Stahl says. “It’s all about the location. You’ve got the great house. It has a marble kitchen and all that stuff, and the schools are pretty good, but meanwhile, your neighbor is a Hell’s Angel.”
- ✓ **Plan ahead.** According to Brett Femrite, director of business development at Rackmount Solutions ([www.rackmountsolutions.net](http://www.rackmountsolutions.net)), “Because both parties’ interests need to be protected under the agreement, legal review of contracts can take time and have the potential to delay your installation or cause you to miss your deadlines.” Thus, he says, request a copy of the agreement early in the sales process so your legal team can review and begin negotiating in advance.

### Inspect The SLA

According to Scott Reiland, communications manager at Phoenix NAP ([www.phoenixnap.com](http://www.phoenixnap.com)), “There’s a difference between a 100% SLA and a 100% SLA that pays something in the instance of any sort of issue.” Thus, determine if the SLA has real teeth, he says. Femrite advises comparing the SLA to the services you plan to use, as some SLAs have varying levels of coverage based on services. “Be sure to note whether there’s a redundant service offering that you must opt in to use in order to be fully covered by the SLA. Examples include A/B power or redundant network connections,” he says. Beyond knowing power-related contract terms (“Are they N+1, 2N? What availability is there?”), Reiland says to check that the companies you presently have contracts with (network providers, managed services providers, etc.) already work with or can work with the provider.

Overall, Stahl cautions against getting caught up in flash. Providers will “show you some pretty stuff,” he says, but the devil is in the details in the market of running a data center. Thus, he says, check if cabling under a raised floor is clearly labeled and there’s attention to detail, note who handles security and how (swipe cards, in-cage surveillance camera, etc.), and perform similar quality checks. **P**

HOW TO

# Future-Proof Your Server Investments

Prepare New & Existing Servers For Long-Term Use

**FOR DATA CENTERS**, companies in the IT industry, and most businesses in general, servers are the foundation and most important components of their overall computing systems. Servers help employees by providing the necessary computing power and applications for their productivity needs, and servers also help the company reach out to customers quickly and more effectively. They represent the combination of networking, storage, and agility that can help your company reach its desired potential.

Because servers are so essential for businesses, IT managers must understand when it’s time to upgrade servers or buy new ones, and as with any IT purchase, the goal should always be to invest in a solution that will give the company the performance it needs for years to come. The key is to understand when it’s time for an upgrade or when you can make tweaks to existing servers. And if you do decide to invest in new servers, you must make sure they have every feature your company and workforce will need for the future. Here we’ll show you a few things to consider when extending the life of your existing servers as well as features to look out for in new servers.

### Recognize The Signs That It May Be Time For An Upgrade

The first thing you should do when optimizing servers for the future is to assess the needs of your employees. Look at the overall performance of your servers, including speed and utilization, and then ask your workforce if they are noticing any issues. You should perform a full analysis of your servers to understand potential trouble spots and figure out whether they can be fixed with additional apps and solutions or if new physical infrastructure is needed.

“There are a number of factors that can signal the need; some are obvious, but some are less so,” says Dylan Larson, director of technology initiatives for Intel’s data center group. “Things like utilization rates, user response times, and in some cases, the number of virtual machines that are deployed on servers can point to the overall service quality that users are experiencing with the infrastructure.”

### Invest In Solutions That Will Extend Server Life

If there is a problem with your servers or they aren’t providing the performance that your employees need, it doesn’t necessarily mean that you need new servers. There are many solutions available that can extend the lives of servers and prepare them for long-term use. For instance, Larson says, you can install

management infrastructure software that supports power management and metering at the server level.

There is also the possibility your company can take advantage of virtualization on your existing servers. In some cases, virtualized applications and software can be used to free up space on servers and

use available resources more efficiently. You can take this approach with new servers, as well, by making sure they can aptly support virtualization.

### Important Features Of New Servers

If you do decide it’s time to invest in new servers, there are many important

### Key Points

- Look for warning signs that it may be time to upgrade your servers. Employees are the best place to start, but you may need to perform an in-depth assessment to make sure you are getting the desired performance from your servers.
- Invest in software, applications, and solutions that will extend the life of your server, whether it’s already up and running or a brand new purchase.
- View servers as long-term investments and make sure they have every feature your company will need for the future. Look into scalable servers and be ready to take advantage of future technologies.

### Action Plan

- Understand the total cost of your infrastructure, including space, power, cooling, etc., and not just the servers themselves. Over the past several server generations, there have been tremendous gains not only in server performance, but also in energy efficiency.
- Understand user workload requirements and find servers that can meet those demands. Opt for scalable servers whenever possible so you know you can keep up with your company’s growth and ever-changing needs.
- Explore consolidation opportunities using virtualization technology where it makes sense. It can make it easier to cut costs and free up much-needed resources when you move applications and data to virtualized environments.
- Always be on the lookout for new server technologies to take advantage of, especially ones that don’t require a full server overall. There may be optimization and performance-enhancing applications that can help you get the most out of your existing servers.

### Get Started

According to Dylan Larson, director of technology initiatives for Intel’s data center group, one of the best places to get started when purchasing new, future-proof servers is to look at the cost and energy-saving features. “Customers are becoming increasingly focused on the user experience and total cost of ownership of their infrastructure,” Larson says. “It is often the rising cost of power and scarcity of data center space that impact the life of the infrastructure. Companies that invest in advances in power management are seeing improvements in the overall lifetime and effectiveness of their data centers.”



### Top Tips

- ✓ When looking at your top features for servers, don’t forget to put a strong focus on security. The best way to future-proof your servers is to make sure they are protected from internal and external threats.
- ✓ Make sure the servers you invest in are capable of running the applications you want to use and handling the overall traffic of your workforce.
- ✓ Compare the prices of servers and find one that fits your budget, but don’t sacrifice performance for savings. It sometimes takes a larger investment upfront to save money in the long run.

features to look at that will essentially future-proof them. Look for efficient, power-saving servers that can help lower energy costs for your company in the short term and long term. And some companies are already working on technology to help with energy-related issues. Richard Fichera writes in his “Put ARM-Based Servers On Your Server Planning Horizon” report for Forrester Research that companies should “look to recent server design concepts . . . because they demonstrate the ability to dramatically reduce the overall power consumption.”

In addition to focusing on energy-related features, you should also make sure the servers you choose are scalable for your company. You may be able to invest in servers that will meet your current needs, but they should also be able to evolve with your company. Scalable servers can not only provide the necessary performance in the short term, but also leave room for future customizable if the need arises.

### Always Be Flexible & Prepared For Change


Future-proofing anything related to technology is a difficult task. Even if a company is prepared to the best of its ability, there will always be new challenges to overcome in the future and new technologies to take advantage of. You should regularly assess your company’s needs and the performance of your servers. Try to make small, inexpensive tweaks along the way to avoid potentially costly overhauls. As long as your servers are customized to your needs and scalable, you should be able to adapt and be prepared for the future.

PRODUCT SPOTLIGHT

# Security

Product

### Crossbeam Systems X-Series



Description


The X-Series Network Security Platform family from Crossbeam brings together a quartet of security appliances for a range of needs. The X20, X30, X60, and X80-S are based upon a blade-style, modular architecture—what Crossbeam calls an open, adaptable platform—for expandability. Each encloses at least one APM (application processor module), an NPM (network processor module), and a CPM (control processor module), along with Crossbeam’s latest XOS operating system.

- Models support throughput of 5Gbps in the X20 to 150Gbps in the X80-S
- APM blades are available with up to 12 cores
- The updated XOS operating system version 9.5 supports more security applications

**Best For:** Service providers, telcos, and large enterprises.

**Contact:** (866) 276-7797 | [www.crossbeam.com](http://www.crossbeam.com)

### Fortinet FortiGate-300C



FortiGate Unified Threat Management (UTM) systems from Fortinet® give you the ability to improve your security posture and accelerate your network performance while simplifying your network infrastructure. The FortiGate-300C appliance delivers industry-leading performance and flexibility with hardware-accelerated essential security technologies, including firewall, VPN, intrusion prevention, application control, and Web content filtering, all managed from a “single pane of glass” console. They also include other security technologies such as antivirus/anti-malware, antispam, vulnerability management, and WAN optimization.


- Provides up to 8Gbps firewall throughput with 10GbE interfaces
- A “single pane of glass” management console makes it easy for you to deploy and manage
- IPv6-ready platform with strong authentication options

**Best For:** Midsized enterprise organizations and branch offices of large organizations looking for comprehensive network security protection.

**Price:** \$4,995

**Contact:** (866) 868-3678 | [www.fortinet.com](http://www.fortinet.com)

### Fortinet FortiGate-40C



The FortiGate-40C appliance combines the purpose-built FortiOS 4.0 operating system with the Fortinet System on a Chip (SoC) purpose-built processor to deliver unmatched security and performance advantages. These devices feature all of Fortinet’s unified threat management (UTM) inspection capabilities: firewall, IPS, application control, VPN, and Web filtering—all managed from a “single pane of glass” console. They also include other security technologies such as data leakage prevention, vulnerability management, and WAN optimization. You can deploy security technologies as needed for your unique requirements.

- 200Mbps performance delivers fast throughput for high-bandwidth deployments
- Unlimited user licensing minimizes operating costs and ensures that changes in the number of users does not interfere with network availability


**Best For:** Small businesses, small branch offices, and retail outlets that require all the security functions of larger FortiGate devices in a small form factor.

**Price:** \$398

**Contact:** (866) 868-3678 | [www.fortinet.com](http://www.fortinet.com)

Product

### Milton Security Group Edge Series



Description

Milton Security’s Edge Series, including the Edge7200i, EdgeSMB, and EdgeUtility, integrates seamlessly with existing switching and wireless infrastructure and authentication services. Deployed in-line at vital network points, the appliance powers solutions for secure wireless, guest wireless, subscriber management, endpoint visibility, and virus control.


- Guest Wireless solution lets companies offer wireless Internet access but attaches granular, identity-based access control
- Subscriber Management provides a Wi-Fi solution with authentication, authorization, accounting, guest-only Internet access, and critical resource protection features
- Endpoint Visibility provides live and customized reports concerning devices’ MAC and IP addresses, user credentials, VLAN tags, and session details
- Endpoint Scanning and Virus Control features

**Best For:** Administrators in need of real-time control and visibility over wired, wireless, and VPN infrastructures.

**Price:** Starts at \$999

**Contact:** (888) 674-9001 | [www.miltonsecurity.com](http://www.miltonsecurity.com)

### Network Box E-1000x, E-2000x & E-4000x




Network Box offers a range of UTM devices, including the E-Series aimed at enterprises. Network Box’s E-1000x, which is the entry-level member of the E-Series, utilizes an Intel Xeon dual-core processor to power its impressive security technologies. The E-2000x, the midlevel member of the series, features a quad-core Intel Xeon 64-bit processor. At the top level is the E-4000x with two Intel Xeon quad-core processors. As with all Network Box systems, the E-Series can be installed in high availability, load balanced, or cluster configurations.

- E-Series models are the current flagship of the Network Box range of security appliances, specifically designed for the enterprise marketplace
- The flexibility of the E-Series enables enterprises to handle demanding workloads, including mission-critical requirements

**Best For:** Large enterprises with demanding workloads.

**Contact:** (832) 242-5757 | [www.networkboxusa.com](http://www.networkboxusa.com)

### Network Box M-255, M-285 & M-385



Network Box offers a range of UTM devices, with three aimed at medium-sized enterprises. New from Network Box is the M-385, which makes use of a 3GHz dual-core Intel Core 2 Duo processor to power its impressive security technologies. The M-285 (pictured) features a 2GHz Intel Pentium M processor. There’s stateful packet inspection and packet filtering in the firewall, IDS and IDP, anti-malware, antispam/phishing, content filtering, IPsec and SSL VPN, and more.

- Supports up to 150 users
- The M-385 has seven Gigabit Ethernet ports (expandable to 11 and with fiber support); the M-285 has four Gigabit Ethernet ports and a 100Mbps port

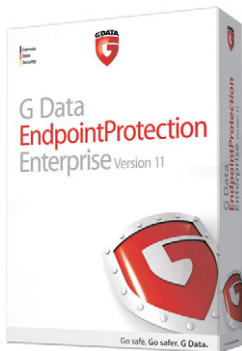
**Best For:** Medium-sized enterprises.

**Contact:** (832) 242-5757 | [www.networkboxusa.com](http://www.networkboxusa.com)

PRODUCT SPOTLIGHT

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

## G Data EndpointProtection Enterprise



The G Data EndpointProtection Enterprise solution is a server-based, award-winning anti-virus program that protects an enterprise network using advanced technologies to thwart unknown viruses and other threats. With DoubleScan technology, your enterprise gains optimum detection rates to stop outside threats before they become an issue. The interface is clean and easy to use, with an Outlook 2010 add-in for virus detection and spam mail filtering.

- Client firewall, idle scan settings, productivity settings
- Supports Active Directory
- Updated dashboard to monitor important happenings
- Optional Silverlight Web interface
- G Data AntiVirus Client and AntiSpam Client includes virus removal and spam OutbreakShield
- New backup module to prevent data loss
- Application control, content filtering, and Internet usage control to ensure policy enforcement

**Best For:** Enterprises looking for a comprehensive security solution to enforce policies, avoid viruses, and prevent data loss.

**Contact:** (919) 806-4720 | [www.gdata-software.com](http://www.gdata-software.com)

## Lindy USB Port Blocker



The USB Port Blocker allows system administrators to physically prevent users from connecting pen drives, MP3 players, and other USB mass storage devices to their computers to copy data, introduce viruses, etc. The USB Port Blocker is made up of a combined “key” and “lock” assembly, which plugs into the USB port. To use, simply plug the key lock into the port and release the latch—the lock remains in place. Plug the key back into the lock to remove.

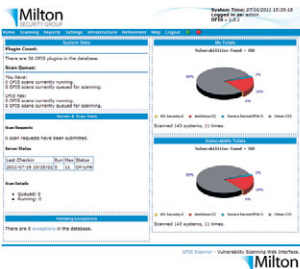
- Physically blocks access to a USB port
- Quick and easy to use
- Six different color code versions available: pink, green, blue, orange, white, and gray
- Each key only works with a lock of the same color

**Best For:** Enterprises wanting to secure and protect their company from data loss and user theft.

**Price:** \$22.95 for one key and four locks; \$18 for 10 locks with no key

**Contact:** (888) 865-4639 | [www.lindy-usa.com](http://www.lindy-usa.com)

## Milton Security Group EdgeOFIS



Milton Security Group LLC’s EdgeOFIS endpoint vulnerability scanner lets you identify and prioritize known and zero-day vulnerabilities to protect your organization’s valuable assets.

- Leverages the large and ever-growing library of scan sets used by Milton Security Group’s Edge7200 series
- Fast discovery and scanning of all assets on the network
- Non-intrusive scanning engine to optimize network performance and scan network devices, operating systems, applications, and databases
- Prioritization of vulnerabilities to expedite mitigation
- Customizable Systems and Schedules

**Best For:** Administrators looking for a simple way to see the current status of your end nodes, then proactively patch and remediate systems.

**Price:** \$399 (VM); \$999 (hardware). Includes one year of support, monthly security scan sets, and five-server license.

**Contact:** (888) 674-9001 | [www.miltonsecurity.com](http://www.miltonsecurity.com)

## Network Box S-25, S-35 & S-85



Network Box designed its S-Series UTM devices for smaller offices that need a VPN to connect remote workers to a central location. The S-25 uses an Intel Celeron 1GHz processor with 64KB cache to connect the employees of any small office. The S-35 features an Intel Celeron processor with an additional solid-state drive for logging and caching. The powerful S-85 features the Intel Celeron processor with an added SSD, but also aims to aid small offices requiring UTM+ services, including content filtering and malware protection.

- Designed to help IT staff look after hundreds of branch offices to maintain hardware reliability and powerful offsite management
- With no moving parts in its all-SSD technology, the S-Series delivers fast and powerful performance

**Best For:** Smaller offices connecting remote workers to a central location.

**Contact:** (832) 242-5757 | [www.networkboxusa.com](http://www.networkboxusa.com)

## SonicWALL NSA 4500



SonicWALL bills its NSA 4500 as a next-generation firewall platform for central-site and large distributed environments needing high capacity and performance. The NSA 4500 includes dual-core processing, IPS, SSL VPN, high-availability technology, advanced networking, and proprietary features in an effort to provide real-time protection without sacrificing speed. SonicWALL says that the NSA 4500 supports a large but flexible deployment with 1,500 site-to-site VPN tunnels, 500 global VPN clients (3,000 maximum), two SSL VPN NetExtender clients (30 maximum), and two Virtual Assist Technicians (10 maximum).

- Reassembly-Free Deep Packet Inspection firewall
- SonicWALL Clean VPN secures tunnel access and traffic
- Application Intelligence and Control prevents data leakage

**Best For:** Midsized businesses; central-site and large distributed environments.

**Contact:** (888) 557-6642 | [www.sonicwall.com](http://www.sonicwall.com)

## Trustwave Unified Threat Management



Trustwave says that its Unified Threat Management delivers a combination of critical security technologies in a single, cost-effective package. With two tiered models to fit a variety of perimeter security needs, Trustwave UTM is available as an appliance or as a fully managed service. Fully configured with antivirus, VPN, intrusion prevention, and a firewall, the appliances can furnish a total throughput of between 4Mbps (TS-10) and 124Mbps (TS-100).

- Stateful firewall
- Inline IPS
- Web and email gateway antivirus
- Web content filtering
- Site-to-site and remote user VPN
- Remote application access control

**Best For:** Small, medium-sized, and distributed enterprises.

**Contact:** (888) 878-7817 | [www.trustwave.com](http://www.trustwave.com)

BUYING TIPS:

# Unified Threat Management



**UNIFIED THREAT MANAGEMENT** incorporates a raft of network security technologies previously sold separately, such as intrusion prevention, spam filtering, and VPN. Not only does well-coded UTM keep disparate components from conflicting with each other, it gives them access to each other’s expertise for better protection.

Here’s a look at major features to keep in mind if your enterprise is planning to upgrade its UTM appliance.

**Perimeter defense.** If you think of a UTM as a castle, its firewall component is its moat. Pierluigi Stella, CTO of Network Box USA ([www.networkboxusa.com](http://www.networkboxusa.com)), recommends that a UTM appliance have at least SPI (stateful packet inspection) capability. Better yet, he says, is a hybrid firewall with SPI, proxy, and packet filtering features.

Additionally, the UTM must come with intrusion detection and prevention systems. The IDS/IPS should be inline with the firewall and fully integrated with it to better stop threats at the edge.

**Anti-everything.** “Hackers use all kinds of ways to get in,” Stella says. “You need to have protection against all of them.” This means active safeguards against spam, phishing, Trojans, worms, and so on.

First, Stella says, a good UTM employs multiple antivirus engines with robust, real-time protection against zero-day attacks. The antivirus should cover multiple protocols. An additional ability to scan encrypted protocols, uncommon today, will become more important this year, he adds.

Also, Stella says, look for products from vendors that don’t “dumb down” their low-end models intended for branch and remote offices. Although entry-level UTMs may provide proportionally more modest throughput and concurrent connection figures, he says, “it is very important that the technology offered for the small offices be exactly the same as that offered for the main office.”

**User-related protection.** A UTM must provide policy enforcement, detection of attachments with potentially dangerous payloads, and server protection that leverages the firewall and IDS/IPS.

A Web access policy is also key, Stella says, as is secure VPN access with both IPsec and SSL support for site-to-site and roaming scenarios.

**Continuous vendor support.** After dedicating a skilled, onsite technician or two to professionally configure your new managed UTM to protect your network, the vendor must also monitor and manage the appliance all day, every day. This includes

proactive updating instead of waiting for the devices to “check in” every so often.

“The Internet moves too fast for updates to be pulled from the devices. Push updates are now a must . . . to reduce exposure to zero-day threats.”

**True integration.** A UTM should be a team effort, Stella says. All of its formerly disparate features must be integrated with each other. As examples, Stella says that just as the firewall and IPS should work closely together, the antispam should work with the IPS to temporarily blacklist source IP addresses and avoid spam floods. In a like manner, the Web

access policy should consult with the anti-spam component to block emails containing URLs that are either harmful or just simply against company policy.

“In a true UTM device, all the functions work together as a whole, such that the final result is stronger than the sum of the parts.”

**Future tech.** UTMs will likely add more new technologies that have traditionally been sold separately, Stella says, citing data loss prevention and vulnerability scanning as two examples. “More and more companies are demanding to see them integrated with the gateway protection,” he says. **P**

## BUYERS’ CHECKLIST

- ✓ **Effectiveness.** How well does the appliance block malware and network threats, known and unknown?
- ✓ **Performance.** Is the system fast enough to have minimal impact on network throughput?
- ✓ **Price.** Beyond the purchase price and cost of initial, professional configuration, what’s the ongoing subscription cost of remote management?
- ✓ **Reliability.** If the UTM comes in an appliance, does it have high availability features?

## KEY TERMS

- Appliance.**  
A standalone server for running a particular application, such as UTM.
- Managed.**  
An appliance that a vendor remotely monitors, updates, and changes.
- UTM (unified threat management).**  
Software (often installed on a managed appliance) that seeks to comprehensively block malware and network threats through features such as a firewall, antivirus, antispam, intrusion prevention, VPN, access policy enforcement, and more.

# Save Money Using Green Strategies

Simple Ways To Lower Your Footprint & Increase Your Savings

**IT’S WELL ESTABLISHED** that putting green policies into place and using green strategies whenever possible are great ways to help the environment and lower a company’s footprint. But there is also a financial benefit to implementing environmentally friendly initiatives, because companies can go green and save money in the process.

“With escalating energy costs, it is critical that IT put a concerted effort into keeping costs under control,” says Simon Mingay, research vice president at Gartner. “The good news is that there is plenty of low-hanging fruit, most of which have quick payback periods.”

It’s important to take full advantage of green strategies, start early, and recognize the places where your company can improve. We’ll show you few easy ways to boost your green efforts and save money in the process.

## Utilize Existing Equipment Efficiently

One of the easiest ways to go green without spending any money on new products or solutions is to make sure your company is using existing equipment efficiently. It can be costly for companies to purchase new products on a regular basis, especially if they aren’t truly needed. Additionally, regularly discarding older devices can lead to more e-waste, which, when not handled properly, can be detrimental to the environment. It’s important to use what you have efficiently and then decide whether you truly need new devices.

In his report titled “Save Money, Go Green, And Be A Hero By Shining A Light On The Office,” Craig Le Clair, vice president and principal analyst at Forrester Research, writes that many companies are allocating devices, such as printers, more liberally than necessary. In fact, he says that some companies have one printer for every two or three workers and that they are only used about 15 minutes in a typical day.

Keep in mind that these devices are more than likely constantly plugged in and drawing energy, which can lead to inefficient consumption and increased energy costs. And this idea goes for more than just printers. Data center components, including servers and other equipment, are always running, even when employees aren’t there. It’s relatively simple to find solutions that can both monitor the energy consumption and activity of infrastructure as well as give you insight into whether it is running at maximum efficiency.

## Measure Energy Consumption Across The Board

If you want to see larger-scale, long-term savings from your green strategies, then you have to institute them in every aspect of your company. It’s a good start to look at printers, desktops,

and other productivity tools issued to employees, but if you go deeper into your company and find out where your infrastructure is running the least efficiently, then you can make changes that will save energy and money.

## Get Started

Where you start really depends on whether your company already has a few green strategies in place. If not, it’s a good idea to come up with a few goals that will mentally prepare employees for thinking green. After that, you have to look at your company’s infrastructure and see where you can make changes. For some companies, it’s possible to go green simply by using existing infrastructure more efficiently, but for others, it may be necessary to invest in all new technology, which could potentially be expensive the short-term but would pay off in lower energy costs in the long-term.

## Action Plan

- First and foremost, set up goals for your organization related to green strategies. Institute recycling policies that will put employees in the mindset of helping the environment, which can lead to other, large-scale strategies in the future.
- Look at every piece of equipment in the company, including servers, desktop computers, and other devices, to help you know where it’s possible to put more green policies into place.
- Make sure the green strategies you use are actually working correctly. Develop a system of tracking and managing green solutions to ensure that you are saving energy or resources whenever possible. “Measure power usage [and] power usage effectiveness,” says Julie Brown, marketing manager at Server Technology ([www.servertech.com](http://www.servertech.com)). “Make adjustments based on the power monitoring information to reduce energy usage and CO<sub>2</sub> output.”
- Take “being green” one step further and find new ways to “manage e-waste and put together guidelines on sustainable procurement,” says Simon Mingay, research vice president at Gartner.
- Plan for the long-term. Keep an eye out for new products that save energy and always be willing to put new green policies into place that will help the environment and cut costs.



## Top Tips

The following tips were provided by Simon Mingay, research vice president at Gartner:

- ✓ If you do decide to invest in new equipment instead of maximizing the efficiency of existing technology, make sure the product’s energy efficiency promises match specific criteria; for instance, servers with lower kilowatt-hour power consumption are greener than other alternatives.
- ✓ Consider DCIM (data center infrastructure management) tools as part of building an energy management capability across the entire IT infrastructure and support systems.
- ✓ Use cloud and virtualized solutions to minimize the need for more physical infrastructure onsite and lower overall energy costs by moving applications to the cloud.

## Key Points

- Instead of replacing your current technology equipment or spending more money on new technology, make sure you are taking full advantage of your existing technology and using it efficiently.
- Measure every aspect of your company’s overall energy consumption, starting with easier-to-measure metrics and moving up to more complicated ones. It can help you find out where you are wasting the most energy and, in turn, spending more money than necessary.
- Take advantage of green strategies that are quick and easy to implement. Later, you can invest in large-scale green initiatives, but in the short term, these smaller changes can start to add up.

“Start measuring energy consumption and gradually increase the granularity of what you measure,” Mingay says. “Start with the data center or server room, [and] separate out the IT and networking equipment from the cooling and power infrastructure. Then, move on to the rack level, eventually down to the server, and even the virtual machines. PUE (power usage effectiveness) as a metric is a good place to start, despite its frequent misuse.”

Mingay says that some companies are even looking deeper than this and thinking about new ways to save energy and cut costs by increasing the efficiency of the building itself. “An example getting a lot of attention today is the use of IT to better manage buildings,” including heating and lighting, Mingay says.

## Make The Little Things Add Up

It’s often more manageable to start small and then build up to whatever level your company is comfortable with. There are green strategies to implement at almost every level of the data center.

For example, if your company isn’t able to fully embrace some of the larger-scale green initiatives, there are many smaller changes you can make that will add up in the long run. “There is so much low-hanging fruit that most organizations still have a long way to go before hitting the commercial limitations,” Mingay says. This means that there are a lot of simple strategies available that many companies aren’t using. The key is to find which strategies are applicable to your business and taking advantage of as many of them as you can. It may not seem like much at first, but the energy savings and positive effect on the environment will often be aware in the future. <sup>[P]</sup>

# Network With Your Peers At These IT Training & Association Meetings Across The United States

**MARCH**

**Microsoft  
SharePoint Designer 2010  
Level 1**

March 26, 9 a.m. to 5 p.m.  
New Horizons Columbus  
6175 Shamrock Court  
Dublin, Ohio  
www.nhcolumbus.com

**SharePoint 2010  
Certification Bootcamp  
for Administrators**

March 26  
Max Technical Training  
4900 Parkway Drive, Suite 160  
Mason, Ohio  
www.maxtrain.com

**AITP Akron**

March 27  
Akron, Ohio  
www.akron-aitp.org

**ISSA Baltimore**

March 28  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
www.issa-balt.org

**ISSA Metro Atlanta**

March 29  
Atlanta, Ga.  
www.gaisa.org

**APRIL**

**Microsoft  
Project Server 2010  
for Project Managers**

April 3  
Max Technical Training  
4900 Parkway Drive, Suite 160  
Mason, Ohio  
www.maxtrain.com

**VMware View:  
Install, Configure,  
Manage (v 5.0)**

April 3-6  
The Arden Center  
4675 Cornell Road, Suite 175  
Blue Ash, Ohio  
www.ardentraining.com

**AITP Pittsburgh**

April 9, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
www.aitp-pgh.org

**AITP  
Wheeling-Wheeling Hospital  
New Tower 5 Tour**

April 11  
Wheeling Hospital  
1 Medical Park  
Wheeling, W.Va.  
aitp-wheeling.org

**AITP  
Washington, D.C.**

April 12  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
www.aitpdc.org

**AITP Atlanta**

April 19, 5:30 to 8 p.m.  
Crowne Plaza Ravinia  
4355 Ashford Dunwoody Road  
Atlanta, Ga.  
www.aitpatlanta.org

**ISACA Kentuckiana**

April 20, 11:30 a.m.  
Louisville, Ky.  
www.isacaky.org

**ISSA  
Middle Tennessee**

April 20, 10:30 a.m. to 1 p.m.  
midtn.issa.org

**AITP Akron**

April 24  
Akron, Ohio  
www.akron-aitp.org

**ISSA Baltimore**

April 25  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
www.issa-balt.org

**ISSA Metro Atlanta**

April 26  
Atlanta, Ga.  
www.gaisa.org

**VMware View:  
Install, Configure,  
Manage (v 5.0)**

April 30-May 5  
The Arden Center  
4675 Cornell Road, Suite 175  
Blue Ash, Ohio  
www.ardentraining.com

**MAY**

**Interop**

May 6-10  
Mandalay Bay Convention Center  
Las Vegas, Nev.  
www.interop.com

**AITP Washington, D.C.**

May 10  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
www.aitpdc.org

**AITP Pittsburgh**

May 14, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
www.aitp-pgh.org

**Android  
DevCon III**

May 17  
Hyatt Regency Burlingame  
1333 Bayshore Highway  
Burlingame, Calif.  
www.andevcon.com

**AITP  
Atlanta**

May 17, 5:30 to 8 p.m.  
Crowne Plaza Ravinia  
4355 Ashford Dunwoody Road  
Atlanta, Ga.  
www.aitpatlanta.org

**AITP  
Akron**

May 22  
Akron, Ohio  
www.akron-aitp.org

**ISSA  
Baltimore**

May 23  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
www.issa-balt.org

**JUNE**

**AITP  
Pittsburgh**

June 11, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
www.aitp-pgh.org

**AITP  
Washington, D.C.**

June 14  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
www.aitpdc.org

**AITP Atlanta**

June 21, 5:30 to 8 p.m.  
Crowne Plaza Ravinia  
4355 Ashford Dunwoody Road  
Atlanta, Ga.  
[www.aitpatlanta.org](http://www.aitpatlanta.org)

**AITP Akron**

June 26  
Akron, Ohio  
[www.akron-aitp.org](http://www.akron-aitp.org)

**ISSA Baltimore**

June 27  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)

**JULY**

**AITP Pittsburgh**

July 9, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
[www.aitp-pgh.org](http://www.aitp-pgh.org)

**AITP Washington, D.C.**

July 12  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
[www.aitpdc.org](http://www.aitpdc.org)

**ISSA Baltimore**

July 25  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)

**SPTechCon**

July 25  
Boston, Mass.  
[www.sptechcon.com](http://www.sptechcon.com)

**AUGUST**

**AITP  
Washington, D.C.**

Aug. 9  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
[www.aitpdc.org](http://www.aitpdc.org)

**AITP Pittsburgh**

Aug. 13, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
[www.aitp-pgh.org](http://www.aitp-pgh.org)

**ISSA Baltimore**

Aug. 22  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)

**SEPTEMBER**

**AITP Pittsburgh**

Sept. 10, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
[www.aitp-pgh.org](http://www.aitp-pgh.org)

**AITP Washington, D.C.**

Sept. 13  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
[www.aitpdc.org](http://www.aitpdc.org)

**ISSA Baltimore**

Sept. 19  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)

**AITP Akron**

Sept. 25  
Akron, Ohio  
[www.akron-aitp.org](http://www.akron-aitp.org)

**OCTOBER**

**AITP Pittsburgh**

Oct. 8, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
[www.aitp-pgh.org](http://www.aitp-pgh.org)

**AITP Washington, D.C.**

Oct. 11  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
[www.aitpdc.org](http://www.aitpdc.org)

**ISSA Baltimore**

Oct. 24  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)

**WPDevCon**

Oct. 24  
San Francisco, Calif.  
[www.wpdevcon.net](http://www.wpdevcon.net)

**AITP Akron**

Oct. 30  
Akron, Ohio  
[www.akron-aitp.org](http://www.akron-aitp.org)

**NOVEMBER**

**AITP Washington, D.C.**

Nov. 8  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
[www.aitpdc.org](http://www.aitpdc.org)

**AITP  
Pittsburgh**

Nov. 12, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
[www.aitp-pgh.org](http://www.aitp-pgh.org)

**ISSA  
Baltimore**

Nov. 28  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)

**DECEMBER**

**Android  
DevCon IV**

Dec. 7  
San Francisco, Calif.  
[www.andevcon.com](http://www.andevcon.com)

**AITP  
Pittsburgh**

Dec. 10, 5 to 8 p.m.  
Silvioni's Restaurant  
2125 Babcock Blvd.  
Pittsburgh, Pa.  
[www.aitp-pgh.org](http://www.aitp-pgh.org)

**AITP  
Washington, D.C.**

Dec. 13  
Alfio's La Trattorio Restaurant  
4515 Willard Ave.  
Chevy Chase, Md.  
[www.aitpdc.org](http://www.aitpdc.org)

**ISSA Baltimore**

Dec. 19  
Sparta Inc.  
7110 Samuel Morse Drive,  
2nd Floor  
Columbia, Md.  
[www.issa-balt.org](http://www.issa-balt.org)

Do you have an event you'd like to see listed?  
Send an email to [feedback@processor.com](mailto:feedback@processor.com).

# What To Look For In A Dealer

When Buying Used Or Refurbished Gear, Using A Reputable Dealer Is Vital

**IN THE RETAIL WORLD,** a popular advertising tag line is “Why buy new when slightly used will do?” That philosophy also holds true in data centers and other enterprise-level environments, where companies are increasingly purchasing quality used or refurbished equipment in an effort to save money. But while buying refurbished equipment can result in significant cost savings, there are factors to be aware of before you go shopping for used gear, and chief among them is the vendor from whom you will be buying your equipment.

**Do your homework.** Make sure the company providing the used equipment

has the means and the expertise to give you equipment that’s either good as new or as close to it as possible.

“The key is to deal with someone who has the expertise to properly refurbish a piece of equipment,” says Bob Houghton, president and CEO of Redemtech ([www.redemtech.com](http://www.redemtech.com)). “A piece of equipment coming out of one environment is rarely ready to go directly into another environment. There needs to be cleaning and sanitizing, including in many cases reconfiguring for the buyer.”

Or, put more succinctly: “You don’t want someone that just wipes the hard

drive and sticks a new label on,” says Ed Stukane, chief marketing officer at PlanITROI ([www.planitroi.com](http://www.planitroi.com)).

To really cover your due diligence tracks, Houghton recommends running a Dun & Bradstreet credit report on the dealer before you buy any substantial amount of used equipment. “Make sure they’ve got the financial strength on the warranties they offer,” he says. “If you’re spending \$100,000 on used equipment, it’s a worthwhile, minor expense. There are a lot of dealers who can’t meet their obligations to buyers and just fade away.”

**Get references.** As you research who’s behind the equipment you’re

buying and how they’re backing it up, Stukane also recommends getting in touch with previous clients. “Obviously, if there’ve been problems or complaints, that’s something you need to take into account,” he says. “If there’s no warranty offered with the equipment, or if there’s just a shortage of information about the dealer, those are big red flags. Find out what their quality process is.”

**Follow licensing requirements.** Fortunately, the refurbishment business has progressed to a state where there isn’t a lot of equipment that can’t be found used and at an OEM level of quality—or sometimes better. But, cautions Houghton, there are OEMs that make it impossible, by virtue of their software licensing policies, to get a good deal on refurbished equipment. A lot of resellers will try to sneak past these licensing policies, which could come back to bite you in the end, so it’s important to find a reputable seller who stays to the right side of these requirements. “Make sure the equipment is fully licensed with the software it needs to operate,” he says. **P**

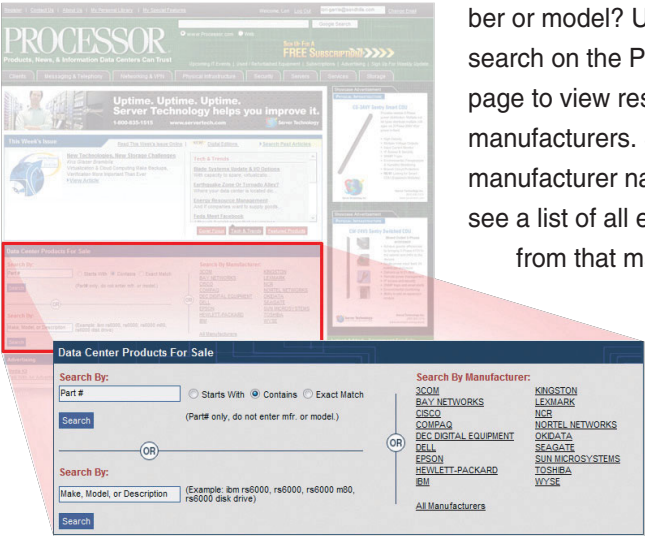
“A piece of equipment coming out of one environment is rarely ready to go directly into another environment. There needs to be cleaning and sanitizing, including in many cases reconfiguring for the buyer.”

-Redemtech’s Bob Houghton

## USE PROCESSOR.COM TO FIND USED & REFURBISHED EQUIPMENT

Once you've made the decision to purchase used or refurbished equipment, finding the equipment you need is easy with Processor's online Data Center Products For Sale Database.

From Processor's home page ([www.processor.com](http://www.processor.com)), you can search for a specific part number, make, model, or description. Enter the information in the appropriate box and click Search. You'll see a list of available equipment. If you don't see the particular piece you're looking for, scroll to the bottom of the search results page to conduct a more detailed search. There, you can search by part number, model, price, location, and more.



Don't know the specific part number or model? Use the drill-down search on the Processor home page to view results from specific manufacturers. Simply click the manufacturer name, and you'll see a list of all equipment listings from that manufacturer.

Do you have excess equipment?  
*Post it for sale on Processor.com!*

On the Processor.com home page,  
click Used/Refurbished Equipment.



Choose  
Post A Free  
For-Sale Listing.

- Search For-Sale Listings
- Find Vendors
- Post A Free Want-To-Buy
- Post A Free For-Sale Listing
- View Want To Buys

Follow the on-screen directions from there!

HOW TO

# Generate Your Own Data Center Power

## Take Power Into Your Own Hands

### Key Points

- Renewable onsite power likely won't be able to power your entire data center.
- You'll need to work with your local utility provider when configuring it to the grid.
- An integrator will need to specialize in commercial or utility level power for the amount your data center will likely need.

**ALTHOUGH RENEWABLE POWER** options have yet to reach a level where they can reliably power a large data center, there are many data centers that are looking to supplement power costs by implementing onsite power generation using solar, wind, or other types of inexhaustible resources. A renewable power source could also provide your enterprise with a backup power option that's longer-lasting than a UPS, battery system, or emergency backup generators. Here, we'll examine what you need to consider with onsite power generation for your data center.

### Onsite Power Uses

A number of newly built data centers have been created with built-in solar installations. For example, Cisco's new data center in Allen, Texas, has a 100kW solar array on part of the data center's roof, which is designed to power the office portions of the building. And social network giant Facebook recently built a data center in Pineville, Ore., that provides electricity to the office areas supporting the data center. Intel has installed a 10kW array in its Rio Rancho, N.M., data center to test how well solar power will work with components of the data center. For example, Intel can divert solar power to the air conditioners during heavy summer heat to relieve some of the grid power necessary to cool the data center in the summer.

As you can see, solar power isn't widely used within the actual data center, but data center builders are seeing the benefits of tapping solar energy to reduce emissions, lower energy costs, and provide emergency backup capabilities. According to David Hughes, IT manager at SPI (Solar Power Inc.), "Depending on the power requirements for a data center, which typically are large, a lot of solar would be required to supplement their usage. A rough example would be that 5 acres of space would be required to generate 1MW of power—using solar trackers that constantly direct the panels towards the sun."

Some data centers may not have enough free space to implement onsite power generation that will effectively reduce their energy costs. And some environments may not be ideal for certain types of onsite power generation. "For example, building a solar farm along the northern coast of California may not make sense if it's foggy 70 to 80% of the day," Hughes says. Another problem would be if tall buildings or trees surround the data center, because shade would block the sun from solar panels. Similarly, wind turbines won't be too effective in areas where wind isn't consistently strong.

### Steps To Take & Equipment Needed

Hughes offers several points to consider when evaluating an investment in solar generation. "Are they doing it to replace

power consumption from the utility (a percentage or all of it)? Are they doing it for environmental reasons? Are they doing it for the marketing benefit, etc.?" With solar power, you'll then need to meet with a solar integrator that will design a system to meet your requirements. Your organization will also need to work hand-in-hand with the local utility provider, because any power system that's tied to the grid will require approval from your local utility.

For example, you'd need to discuss with the local utility about how it will handle onsite power if it's not all being used by your data center. "If 100% power replacement is required, batteries would be necessary with solar power, because the data center is using power at night," Hughes says. Any solar

Here's an example of a solar building installation. Image courtesy of SPI.



integrator you choose to work with should help you through the processes of selecting the appropriate configuration to meet your data center needs. "A data center should look for a solar provider who specializes in commercial and/or utility size solar installations," Hughes says.

Currently, solar is the most popular form of renewable onsite power generation for data centers, and there is some basic equipment in which you'll need to invest. Obviously, you'll be working with the solar integrator to secure enough solar panels to cover the amount of power you want to generate in your data center, and you'll also be dealing with the cost of the panel installation. You'll also most likely be offered a contract for ongoing maintenance for the system. "Typically, the agreements may include periodic panel cleaning and regular checks of the performance of the system. In some cases, utilities may have additional charges to support the real-time units onsite, and communications, among others," says Hughes.

Other key pieces of hardware are solar trackers, (tools that will optimize power generation by orienting itself to a position where the sun best hits the panel), DC/AC inverters,

and high-voltage switchgear. "A lot of utilities are also requiring real-time units to track the generation of solar, and some are requiring control of the inverters, which ensures no power is coming onto the grid if a grid outage should occur," Hughes says.

There are a variety of pitfalls that you should also consider when implementing renewable power. First off, it's quite possible that an existing data center may not have enough space to meet the power generation you expect, as the data center wasn't likely built with onsite power generation in mind. Your company may need to wait to implement onsite power generation into a new building or data center where they can find a location that best suits the renewable power they want to utilize. From a purely financial perspective, it's possible that the cost of the equipment, installation, and maintenance of the onsite power will outweigh the energy delivered by the green power. It could be up to your organization's marketing team to turn the renewable energy into something that will more quickly bring a return on investment.

### Hidden Renewable Benefits

Besides financial savings, the hybrid power approach will likely have a positive effect on the local areas around the data center, because there will be less of an electrical burden on the power grid. It may even be possible for you to sell unused power to the local power utility so that the energy can be taken up by nearby customers. "The marketing benefits of a data center 'going green' could pay dividends in the long run as more and more businesses will likely have that as a requirement for any data center they choose," Hughes says. Thus, even if your onsite power generation isn't offloading a great deal of energy, it could still prove useful from a sales standpoint. Hughes adds, "Data centers could come up with a solution to charge slightly more for power consumption if a customer wanted to ensure that the power they are using is from the solar." P

### Top Tips

- ✓ Figure out the key reasons for making the investment.
- ✓ Find an integrator that will be able to maximize the production of your onsite power.
- ✓ Meet with the local utility about how the power will be handled.
- ✓ Work with your marketing department to play up the value of green power.
- ✓ Consider investing in ongoing maintenance for your equipment.

# Processor Solutions Directory

Here are brief snapshots of several companies offering products designed for the data center and IT industry. Listings are sorted by category, making it easy for you to find and compare companies offering the products and services you need.

You can find more detailed information on these companies and the products they offer inside this issue.

To list your company and products, call (800) 247-4880.

PHYSICAL INFRASTRUCTURE




Upsite Technologies was founded in 2001 to address data center needs for products and solutions reaching far beyond standard engineering and consulting offerings. The company innovates elegantly engineered products specifically designed to maximize data center airflow efficiency, improve PUE, and increase heat density. Upsite designs and manufactures the LOK family of products, which provides superior sealing, maximum energy savings, and the best protection available for your IT equipment.

**Products Sold:**

- KoldLok Grommets
- HotLok Temperature Strips
- HotLok Blanking Panels

(505) 982-7800 | www.upsite.com

PHYSICAL INFRASTRUCTURE



Rackmount Solutions' mission is to listen to the IT engineer's specific needs and deliver superb-quality, high-performance products through continuous product innovation and operational excellence. We pride ourselves in providing quality customer service, products that fit your IT requirements, and solid value for your money.

**Products Sold:**

- Wallmount and server racks and cabinets, including sound proof, air conditioned, and large cable bundle
- Desktop/tabletop portable racks
- Shockmount shipping cases
- Bulk cable

(866) 207-6631 | www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE




BayTech was founded in 1976 and, since the 1990s, has developed unique products for remote power management. The company uses printed circuit board instead of wires for a better, more resilient connection between the data center equipment and the receptacle. BayTech provides an extensive Web site with brochure downloads, warranty information, and reseller support and also offers evaluation units for data centers.

**Products Sold:**

- Power control, distribution, management, and metering
- Power transfer switches
- Console management and remote site management

(800) 523-2702 | www.baytech.net

PHYSICAL INFRASTRUCTURE



Server Technology is committed to the PDU market with the largest group of engineers dedicated to power distribution and other solutions within the equipment cabinet. Advancements in device power monitoring help data centers monitor and improve their efficiency, and continuous research and development is fueled by companies that look to Server Technology for their custom cabinet power solutions.

**Products Sold:**

A complete line of cabinet PDUs, including Per Outlet Power Sensing (POPS), Rack Mount Fail-Safe Transfer Switch, Console Port access with remote power management, Switched, Smart, Metered, Basic, and -48 VDC

(800) 835-1515 | www.servertech.com

PHYSICAL INFRASTRUCTURE




Sensaphone has been designing and manufacturing remote monitoring systems for more than 25 years and has more than 300,000 of its products in use. Sensaphone's product lineup offers a full range of devices with a broad number of features and applications designed to monitor your entire infrastructure and alert you to changes. All product engineering functions, including hardware and software design and circuit board layout and assembly, are performed at the Sensaphone facility in Aston, Penn.

**Products Sold:**

Remote monitoring solutions that provide email and voice alarm notification for problems related to temperature, humidity, water detection, power failure, and more.

(877) 373-2700 | www.sensaphone.com

PHYSICAL INFRASTRUCTURE




Information Systems Associates Inc. is a leading provider of Mobile Data Center Management™ systems and turn-key data center management solutions. Global 2000 companies choose ISA because they know the job will be done professionally, accurately, on time, and on budget. ISA's worldwide network of partners, resellers, and affiliates enable global coverage and ultimate scalability

**Products & Services Sold:**

- DataCenterEasy® mobile data center asset management system utilizing wireless handheld technology
- Data center asset inventory data collection services
- Onsite data center asset inventory services

(702) 577-3404 | www.datacentereasy.com

PHYSICAL INFRASTRUCTURE



PDUsDirect.com is a Master Distributor of select Server Technology PDUs for server and networked environments. PDUs Direct's basic, metered, and switched Rack PDUs provide local and remote power management, power monitoring, and environmental monitoring. We pride ourselves in offering industrial-grade quality products at the lowest prices, with the fastest shipping (most orders shipped within 24 hours) and simplest purchase process. We are the Power Behind the Business.

**Products Sold:**

A complete line of metered and basic PDUs, and 20A switched PDUs.

(888) 751-7387 | pdusdirect.com

PHYSICAL INFRASTRUCTURE



AVTECH Software, founded in 1988, is focused on making the monitoring and management of systems, servers, networks, and data center environments easier. AVTECH provides powerful, easy-to-use software and hardware that saves organizations time and money while improving operational efficiency and preparedness. AVTECH products use advanced alerting technologies to communicate critical status information and can perform automatic corrective actions.

**Products Sold:**

A full range of products that monitor the IT and facilities environment, including temperature, humidity, power, flood, room entry, and UPS

(888) 220-6700 | www.AVTECH.com

PHYSICAL INFRASTRUCTURE



ITWatchDogs manufactures environmental monitors that help prevent downtime from climate- and power-related issues. Its Web-enabled monitors let users keep an eye on remote conditions from a secure Web interface and receive SNMP, email, SMS and voice call alerts when specified alarm thresholds are exceeded for external factors, including temperature, humidity, airflow, power failure, smoke, water detection, and more.

**Products Sold:**

- Climate monitors
- Digital and analog sensors
- Power monitors
- IP surveillance cameras

(512) 257-1462 | sales@itwatchdogs.com | www.itwatchdogs.com

PHYSICAL INFRASTRUCTURE



Staco Energy was founded in 1937 and is one of the longest-lasting innovators of power products and services in the world. Our recent innovations have created the foundation for entry into the SMB data center marketplace through pioneered design and expertise. We are committed to providing you with the best tailored power solutions for your needs.

**Products Sold:**

A full line of UPS products, including our new FirstLine P 80 – 125kVA UPS, FirstLine PL 10 – 100kVA UPS, FirstLine BMS, and related accessories and services.

(866) 261-1191 | www.stacoenergy.com

PHYSICAL INFRASTRUCTURE




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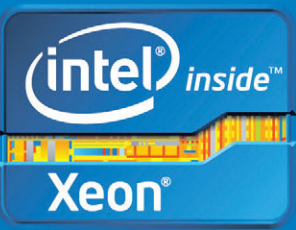


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